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AN
ACCOUNT
OF
PETERHEAD,
ITS
MINERAL WELL,
AIR,
AND
NEIGHBOURHOOD.

By WILLIAM LAING, M.D.
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BRITISH MUSEUM

TO THE HONOURABLE,

THE GOVERNORS OF THE MERCHANT
MAIDEN HOSPITAL, EDINBURGH.

GENTLEMEN,

AS the ſubject of theſe few ſheets is a town of which you have ever ſhown yourſelves indulgent Patrons, I have preſumed to inſcribe them to you.

I am happy, in this publick manner, to expreſs the ſenſe which all the inhabitants of this place entertain of the liberal policy that has dictated all your conduct towards it; whereby you have at once promoted its proſperity, and the intereſt of the Society of whoſe affairs you have more immediately the charge.

And that ſhare of your favour which I have enjoyed, in common with the reſt of my fellow-townſmen, merits, and has, my grateful acknowledgments.

I am, with great reſpect,

Gentlemen,

Your humble

And obedient ſervant,

WILL. LAING.

Peterhead,
January 1793.

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ERRATA.

Page 1. line 15. for *object* read ſubject.
6.——3, put a comma after—reddiſh.
22.——15, for *might* read muſt.
32.——1, 2—put the commas after the marks of reference.
——7, read ſkilful.
33.——22. put a comma after—irregular.
34.——3. read—or a ſore.
36. foot-note—read—unnatural contraction.
43.——11. dele *even*.

AN ACCOUNT OF PETERHEAD,

ITS MINERAL WELL, AIR, AND NEIGHBOURHOOD.

THE mineral well at Peterhead has long been in repute, and much reſorted to, not only by the people of the town and neighbourhood, but alſo by many perſons from almoſt every part of Scotland: and in a great variety of diſorders it has been found very beneficial. An attempt therefore to lay before the public a full and authentic account of what may be expected from it, ſeems not only juſtifiable, but even likely to be of uſe. Such an account I mean to give. I wiſh the object had fallen into hands more capable to do it juſtice: for the analyſis of mineral water is a matter of no little difficulty. For more than twenty years I have dwelt near this well, and have occaſionally drank the water with ſucceſs. I have preſcribed the uſe of it to many perſons in various diſorders, without being diſappointed in any reaſonable hopes. Yearly during the ſeaſon I have given advice concerning the uſe of it to many of different ranks, and eſpecially to numbers of the meaner claſs who frequent it, requeſting of them that before leaving the town they would let me know its effects. Every year, in common with the other inhabitants of the place, I have ſeen the vaſt crowds that reſort to the water, and heard of the advantages they have reaped. And ſince I reſolved to write on this ſubject, I have ſpent a good deal of time in endeavouring to make a correct analyſis of the water; and though the ſucceſs has not been complete, yet it has been ſufficient to point out its nature and probable effects.

I propoſe therefore to give an account of the mineral water of Peterhead, of the diſorders to which it is adapted, and of the town itſelf, its air, and neighbourhood.

CHAPTER I.

OF THE MINERAL WATER OF PETERHEAD.

Sect. 1. *Of the ſituation of the well, and of ſome external circumſtances.*

THE town of Peterhead lies in latitude 57° 31′ north, near the Buchan-neſs, and in the greateſt Eaſt longitude of any land in Scotland. The mineral well, which from its virtues has long obtained, from the common people, the name of the *Wine-well*, is ſituated at the ſouth-eaſt ſide of the town, among ſome rocks, on the ſea ſide, and about ten feet above the higheſt flowings of the tide. In the greateſt cold of winter the water in this well has not been obſerved to ſink the mercury in Fahrenheit's thermometer below 42°; nor in the greateſt heat of ſummer to raiſe it above 54°: therefore the ſpring ſeems to lie a conſiderable depth below the ſurface of the earth. The ſoil in the neighbourhood of the well, and for a conſiderable extent along the coaſt on the ſouth ſide of it, is very full of a browniſh ore of iron: all the water iſſuing from that part of the coaſt has a brown colour and an inky taſte: there is no kind of ſtone found near Peterhead, except granite of a reddiſh tinge, evidently from iron in its compoſition. The higheſt ground near this well is not more than ſixty or eighty feet above the level of the ſea. The quantity of its water has an evident connection with that of the rain that falls; as in winter it diſcharges conſiderably more than in ſummer, and in the dry ſeaſon its water increaſes after a fall of rain. It ſeems to conſiſt of ſeveral veins, ſome of them having more of the iron joined to the water by the fixed principle, and others more by the volatile principle. All the ſtones forming the reſervoir, which are of freeſtone, and the bed of its ſtream, are incruſted with ochre, or rather the ſubſtance of them ſeems to be filled with iron, as petrified bodies are filled with ſtony matter. Glaſſes or ſtone ware uſed in holding this water are quickly covered with a brown cruſt, not eaſily removed without pearl aſhes, or ſpirit of ſalt. As the well is daily cleaned, and runs over a ſhort courſe of ſtone into the ſea, no animals or vegetables live in its water.

Sect. 2. *Senſible qualities of the water.*

Viewed in a clear glaſs, and compared with a ſimilar glaſsful of clear rain water. it appears ſenſibly, though but little, yellower. When ſhaken in a phial it ſends out many more and larger air bubbles than common water does: and, when poured into a clean glaſs, it ſparkles. It has a pretty ſtrong ſmell, like that of poliſhed iron when rubbed, which is moſt diſtinctly perceived when the head is held within the reſervoir, above the water: but there is not the leaſt mixture of a hepatic ſmell. (See Bergman's Eſſ. v. 2d. p. 298.) Its taſte is what is called *inky*, to a great degree: but along with the taſte of iron, there are evidently other taſtes joined, as a briſkneſs, and a ſharp taſte, as of ſome kind of ſalt diſſolved in it.

Sect. 3. *Experiments for finding out its contents.*

The knowledge of the component parts of bodies is deſirable, as being pleaſant in the meantime, and probably uſeful in the time to come. This is particularly the caſe with regard to any remarkable medicine, as it may enable us to know by analogy what effects we may expect from it, what diſorders it may be uſeful or prejudicial in, how to act ſo as to make it produce its good effects to the beſt advantage, how to obviate any bad effects that might ariſe from it, and how to find natural or artificial ſubſtitutes for it, when the real medicine cannot be had.

(A) If the water is allowed to ſtand for ſome hours in the open air, many air bubbles attach themſelves to the bottom and ſides of the veſſel containing it, ſucceſceſſively come to the top, and eſcape: in the meantime a variegated ſcum is formed on the ſurface, which becoming at length too heavy, breaks and falls to the bottom, in form of a brown powder: the water loſes its briſkneſs, but keeps its inky and ſaline taſte. This ſhews that by the expoſure of the water to the air a change is made upon it, in conſequence of which it becomes incapable of holding the whole quantity of iron which was formerly diſſolved in it; and that the portion of iron, thus let go, falls to the bottom in form of ochre. And from other experiments we know that this change conſiſts in the eſcape of that volatile ſubſtance called *fixed air* or *aerial acid*, which was naturally mixed with this water, and which, like any other acid mixed with water, enables it to diſſolve iron. This acid, having but a ſlight attraction to the water, when unconfined ſoon leaves it; and allows the iron, no longer ſoluble in the water, to fall to the bottom. Exactly the ſame things happen, when water, having fixed air and iron artificially united to it, is expoſed to the open air.

(B) The ſame change that is ſlowly brought upon the water by expoſure to the air is more rapidly produced by boiling it on the fire. Before it boils it becomes brown; and when it has boiled about twelve minutes, the brown colour does not ſeem to grow deeper any longer. The variegated ſcum does not appear in this caſe, being prevented by the agitation of the water in boiling.

Here then is another principle that is joined to the water, along with iron; namely, the *fixed air* or *aerial acid;* that principle which gives the briſkneſs to this and to moſt other good mineral waters, as Seltzer, Spa, Pyrmont; in the ſame manner as it does to bottled beer, and indeed to every other liquor either in a ſtate of fermentation, or ſhut up in cloſe veſſels before the fermenting ſtate was over; that principle which gives the pungency generally deſired in all kinds of vinous liquors, which become flat when it is allowed to eſcape into the air, and recover their briſkneſs when it is reſtored by art.

(C) It is well known, from the making of ink and other experiments, that if iron in the form of green vitriol, or in any other form, be united to water, and that water be mixed with any liquor impregnated with galls, ſhumack, oak, tea, or any other vegetable aſtringent, the liquor will ſoon became black. Hence vegetable aſtringents become a good teſt for trying whether water contains any portion of iron, however ſmall, in its compoſition: and in this caſe a * ſaturated ſpirituous tincture of galls is the moſt convenient teſt. If two or three drops of this tincture be put into a wine glaſs full of the mineral water, it ſoon becomes reddiſh purple, and by and by black.

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* One ſubſtance is ſaid to be ſaturated with another ſubſtance, when it is ſo impregnated with it that it can receive no more.

I diſſolved eight grains of green vitriol in eight ounces (by meaſure) of pure rain water. I choſe ſix ſimilar wine glaſſes. Into the firſt glaſs I put one dram meaſure of the ſolution of vitriol, into the ſecond two drams, into the third three drams, into the fourth four drams, into the fifth eight drams or an ounce; and to the ſolution of vitriol in each of theſe five glaſſes I added as much rain water as made up two ounces of liquor in each glaſs: laſtly, into the ſixth glaſs I put two ounces of the mineral water. Then into each glaſs I put twelve drops of the tincture of galls; from that time, during an hour, the colours of them all were diligently compared by ſeveral perſons called for the purpoſe: and that of the third glaſs, containing the three drams of the ſolution of vitriol, or three eighth parts of a grain of vitriol to the two ounces of water, was found moſt to reſemble that of the mineral water; only that this laſt ſeemed a fuller colour, and like as if ſome claret had been added to the mixture.

This affords an eaſy way of comparing this mineral water with others, in regard to the quantity of iron contained.

It alſo gives a ſort of eſtimate of the quantity of iron. There is, by this experiment, in two ounces of the mineral water, iron equal to three eighths of a grain of vitriol; that is, equal to three grains of vitriol in one pint Engliſh; which is, (Bergman's Eſſays, v. 2. p. 180.) equal to three-fourths of a grain of ſolid iron to one pint of the mineral water. But the quantity of iron given by this eſtimation is too ſmall (D).

(D) With a view to eſtimate more accurately the quantity of iron contained in this water, I attempted to convert into Pruſſian blue all the iron contained in a certain quantity of this water; to treat a ſolution of green vitriol in the ſame way, at the ſame time, and to compare the reſults. This was done with the view, that, as different proceſſes and alkalis differently prepared might produce different quantities of Pruſſian blue, there might be no deception from that quarter. And as the *phlogiſticated* or *Pruſſian alkali* made in Profeſſor Bergman's way, by boiling *ſalt of tartar* with four times its weight of Pruſſian blue, ſeemed to contain Pruſſian blue ready formed *, and only diſcoloured by the alkali; therefore I prepared the *phlogiſticated alkali* for the purpoſe, by calcining together ſalt of tartar with dry neats blood. A ſmall quantity of the ſolution of this alkali diſcovers the quantity of iron to be very conſiderable. The mineral water, after this addition, becomes at firſt of a greeniſh yellow: but after a while it becomes of a deep and beautiful blue: and the ſame thing happens immediately, on adding a few drops of dilute vitriolic acid.

Into two Engliſh quarts of the water I poured a quantity of the *phlogiſticated alkali;* and added ſlowly dilute vitriolic acid, as long as the blue colour appeared to grow deeper by the addition: I allowed the colouring matter to fall to the bottom, and took off the tranſparent liquor by the ſyphon. I then treated this liquor as before with freſh quantities of *phlogiſticated alkali*, and of vitriolic acid, and obtained an additional quantity of Pruſſian blue. This proceſs was repeated, till no more blue ſediment could be obtained from the water: and the whole quantity of the Pruſſian blue, when dried in a china cup by a ſand heat, amounted to eighteen grains. I treated a ſolution of eight grains of green vitriol exactly in the ſame manner, and it produced fourteen grains of Pruſſian blue. But having obſerved ſomething ſaline along with the blue, while it was drying; and conſidering that a portion of the *vitriolated tartar* formed by the mixture of the *phlogiſticated alkali* and vitriolic acid muſt ſtill remain joined to the blue; I therefore waſhed both the dry powders well with pure rain water. And now the dry remainders amounted to eleven grains and a half of Pruſſian blue from the two quarts of mineral water, and to five grains and a half of Pruſſian blue from the eight grains of vitriol.

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* This was afterwards rendered certain by experiment. I boiled half an ounce of the fineſt Pruſſian blue, firſt with one-eighth of an ounce of ſalt of tartar; and, the ſolution not proving colourleſs, with as much again of ſalt of tartar. The ſolution, when filtered through paper, ſtill was ſomewhat greeniſh. With this liquor I treated two quarts of Peterhead water, and, by repeated trials, made at laſt 33 grains of Pruſſian blue, of which a great part muſt have come from the alkali.

Calculating now as before, we have to the two quarts of water, iron equal to ſixteen grains and ſeven tenths of vitriol, that is 4.12 grains, or ſomething more than one grain of iron to one pint of the water. This is more than the laſt experiment gave, but it is probably nearer the truth; for the eye can judge but imperfectly in ſuch caſes, and this preſent experiment may make the iron appear to be too little, but can hardly bring it out to be too much. Nay, it is evidently ſtill too little; for the mineral water, after it would yield no more precipitate, was very blue; whereas the vitriolic ſolution, in that ſituation, was colourleſs.

(E) I next wiſhed to know for certain, whether or not the mineral water actually contains fixed air: for the depoſition of ochre, either on boiling, or on long expoſure to the air, is not quite deciſive; as the ſame thing, in ſome degree, happens to a ſolution of vitriol.

For this purpoſe, I cauſed a veſſel to be made of tin plate, in form of a tubulated retort, and filled it with the mineral water as full as it could boil without running over; and put the turned up end of its neck under the mouth of a bottle, filled with filtered lime-water, and inverted in a baſin. After the water in the retort had boiled twelve minutes, I found a conſiderable quantity of white clots at the bottom of the lime-water; which was the lime precipitated by the fixed air driven over from the mineral water.

I thought that the quantity of fixed air might be thus meaſured; but the neceſſary expoſure of the lime-water to the common air, from which it is every moment attracting fixed air, fruſtrated this hope.

(F) The only certain way of meaſuring the fixed air contained in water, namely by diſtillation, as in the laſt experiment, but uſing a glaſs retort, and mercury for the lime-water, was not in my power; for no proper glaſs retort could then be had. The Florence flaſk and bladder, mentioned by Bergman, did not anſwer with me; for the bladder was ſhrivelled up, and its texture deſtroyed by the hot vapour, before the water boiled; ſo that it did not retain the fixed air.

1. I therefore uſed the tin retort (E), with the inverted bottle full of mercury. Many precautions were applied to inſure ſucceſs, and the experiment was ſix times repeated: but the vapour, expanded by the heat on the one hand, and compreſſed by the weight of the mercury on the other hand, always in part eſcaped by the joinings and by the corked tube, ſo that its whizzing was diſtinctly heard. The air thus collected, after being cooled, amounted only to three ounce meaſures in the pint of water. Nor had I an opportu-

nity of trying whether ſome part even of this might not be common air.

2. I hoped for better ſucceſs from finding the *quantity of iron* diſſolved in the water by fixed air, and thence calculating the *quantity of fixed air*. I therefore boiled twelve Engliſh pints of the water for twelve minutes; allowed the ſediment to fall to the bottom; abſtracted the liquor by the ſyphon; and found the ſediment, when dried, to amount to three and one-third grains of ochre. Now if a hundred cubic inches of fixed air be neceſſary for diſſolving four grains of iron (Bergman's E. v. 2d. p. 220), then eighty-three and one-third cubic inches of fixed air will be neceſſary for three and one third grains of iron. There are then eighty-three and one third cubic inches of fixed air in twelve pints of the water: that is nearly ſeven cubic inches in one pint of twenty-eight and four fifths cubic inches, which is almoſt one fourth of the bulk of the water.

It was neceſſary, for the mean time, to hold this as the proportion of fixed air to the water: but this plan, though the beſt that could be got, is far from accurate. It is not poſſible to determine exactly when all the fixed air is exhaled, and conſequently, when all the iron diſſolved by the fixed air is ſet at liberty to ſubſide: nor is it poſſible, from ſo great a quantity of water to collect all the particles of the *iron;* and, in an experiment ſo nice, the leaſt loſs muſt be of conſequence: nor laſtly, is it known whether there be not more fixed air in the water than is neceſſary for diſſolving the iron. On the other hand, it is not eaſy to be certain that ſome part of the iron depoſited may not be owing to the decompoſition of vitriol (E,) or of any other combination of iron with an acid. The firſt error would give the quantity of *fixed air too little*: the laſt error would give it *too much*. However, I have reaſon, from what has been juſt ſaid, and from the taſte, to believe the quantity of air here aſſigned to be ſtill too ſmall.

(G) We have ſeen that there is iron united to this water by means of fixed air, which is the moſt common way in * *chalybeate* ſprings. But here far the greater part of the iron is diſſolved by ſome acid much leſs volatile than fixed air. For not only do the experiments (C and D), for making *inky* liquor and *Pruſſian blue*, ſucceed, after the *aerated iron* has been ſeparated by boiling and filtration; but even after the water had ſtood for fourteen days in a bottle half full, and was afterwards boiled for half an hour, and filtered, ſtill its power of becoming black with galls, and blue with phlogiſticated alkali, was not greatly diminiſhed. Therefore, to find out what other acid or acids are in the water, I tried theſe experiments.

1. Into a wine glaſs full of the mineral water I put three drops of Muriated Barytes †. It became ſomewhat whitiſh: which ſhews that there is ſome vitriolic acid in this water, united either to the iron, or to ſome other body; for there is no diſengaged acid in this water.

2. Of a ſaturated ſolution of *lunar cauſtic*, ‡ or (*nitrated ſilver*) in diſtilled water, I put ſome drops into a wine glaſs full of the water; which immediately became of a denſe white at the bottom: and, on adding more and more of the *nitrated ſilver*, the liquor became all over of a full white, and thick ſeemingly as if a large proportion of ſome fine white powder had been

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* Impregnated with iron.

† Or *ſalited terra ponderoſa*, which is a ſaturated ſolution of the earth called *terra ponderoſa* in *muriatic acid*; and is uſed for diſcovering whether water contains acid of vitriol joined to any baſe whatever.

‡ This is uſed for finding out the *muriatic acid*.

diffuſed in it: afterward the liquor became purpliſh, and depoſited a ſediment of the ſame colour. This ſhows that a large quantity of *muriatic acid* * is, in this water, united either with the iron, or with ſome other *baſe*.

Of any other acids in this water I had no ſuſpicion.

(H) But other ſubſtances are generally found in moſt kinds of water, and eſpecially in mineral waters: and therefore, to find out what other ſubſtances there may be in this water,

1. I *prepared* a quantity of *acid of ſugar*, [it could not be had to buy in this part of the country] purified it by repeated chryſtallization, and tried it on other waters known to contain lime, (chalk, or calcareous earth,) which it readily precipitated in a white powder. This acid, when added to the Peterhead water, ſometimes made no difference: at other times, after it had ſtood for twenty-four hours, clear lines appeared running down along the conical part of the glaſs to the bottom; owing to a ſmall depoſition of lime. Hence the preſence of lime in this water is accidental, as its quantity when preſent is very ſmall.

(I) I tried many other precipitants †: but they diſcovered nothing contained in the water different from what was already known.

1. *Concentrated vitriolic acid* dropped into the water makes the air to ariſe in vaſt numbers of bubbles to the ſurface. Theſe ſoon ceaſe, and the water continues tranſparent. The preſence of *fixed air* in the water is thus confirmed (A. B. E. F.)

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* Called alſo *marine acid*, and vulgarly *ſpirit of ſalt*.

† Subſtances that diſcover matters diſſolved in waters, by producing a known difference of appearance in the waters.

2. Salited lime * makes no ſenſible alteration upon the water. But no more did it make any alteration upon waters in which I had diſſolved alum, Epſom ſalt, and martial vitriol, in a proportion fully greater than any of them could be ſuppoſed to be in Peterhead water: ſo that this experiment proves nothing.

3. Salt of tartar precipitates abundance of iron, in form of ochre, firſt of a bluiſh green, and then becoming brown. (A. B. C. D.)

4. I put a piece of alum weighing three grains into a wine glaſs full of the water; but no ſpungy ſtratum, or any other change in the liquor appeared during twelve hours. There is therefore in this water no *alkali* in a free ſtate; no *aerated*, † *muriated*, nor *nitrated* lime. (Bergm. Eſſ. v. 2. p. 131.)

5. Lime water poured into the mineral water immediately makes it turbid; becauſe the quick lime abſorbing the fixed air from the water, can no longer be diſſolved in water, and therefore falls to the bottom in a white powder, which ſoon becomes yellow or greeniſh, from the mixture of ochre.

Beſides theſe I made many other experiments with various *precipitants*: but the reſult of the whole of theſe trials was this; that the Peterhead water contains fixed air in a moderate quantity, iron and muriatic acid in great quantity, vitriolic acid in ſmall quantity, and ſeldom any lime. Beſides theſe I could, by precipitants, diſcover nothing elſe contained in it.

But how theſe acids are combined, which of them is united to the iron, or whether they be all united to it, or whether any of them be united to any of the fixed alkaline ſalts; and in what proportion the various ingredients ſubſiſt in the water; theſe experiments do not indicate: and therefore I attempted to diſcover theſe things, by the more operoſe, but more ſatisfactory proceſſes following.

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* Muriatic acid ſaturated with chalk or lime.

† Lime or chalk united to the water by means of *fixed air*, muriatic acid, or nitrous acid.

(K) (a) I took twelve pounds avoirdupois of the water that had firſt been deprived of its aerated iron, (F. 2.), and by a heat of from 140° to 180° evaporated it in a tin-kettle (for want of a better apparatus which could not be had,) to one pound: and then evaporated this pound to dryneſs, in a veſſel of ſtone-ware, on a ſand-bath. The *reſiduum*, when well dried, weighed ninety-nine grains.

(b) This reſiduum I put into three ounces of *alcohol*, which I had rectified for the purpoſe: after it had ſtood ſix hours, the liquor was filtered, and put into a phial corked and labelled.

(c) What remained undiſſolved by the *alcohol* I carefully collected, put it into eight times its weight of diſtilled water; and after it had ſtood for ſeveral hours, I ſeparated the liquor, and put it up as the former.

(d) The matter that ſtill remained undiſſolved I boiled in five hundred times its weight of diſtilled water; ſeparated and put up the liquor as before.

(e) 1. What now remained, being well dried, weighed thirteen grains, and ſeemed, by its colour, to be almoſt entirely ochre. It was put into a tobacco-pipe, having its hole ſhut with pipe clay, and kept in a briſk red heat for half an hour. It then weighed only ſeven grains, and had a purpliſh appearance, like powder of thick pieces of ruſt of iron. This diminution of weight probably aroſe from the expulſion of the remaining air and water.

2. I then put this calcined powder into an ounce and half of diſtilled vinegar, and after it had ſtood ſix hours decanted off the clear liquor.

3. This liquor evaporated to dryneſs left three and a

half grains of a grey matter, which did not deliqueſce in the air: and this matter, having dilute vitriolic acid poured upon it beyond ſaturation, had about half of it diſſolved; which half therefore I at firſt concluded to be magneſia, (Bergm. v. 2d. p. 161.) and the undiſſolved half to be lime. But on adding *phlogiſticated alkali* to the ſolution, the whole became of a thick and intenſely deep Pruſſian blue. This ſhewed that the diſſolved part was not magneſia, but iron: and this alſo ſhewed, that half an hour's calcination in a briſk red heat is not ſufficient to render calx of iron inſoluble in diſtilled vinegar.

The other half which was not diſſolved by the vitriolic acid, or rather, which was precipitated by it in form of gypſum, was lime, one grain and three fourths.

4. What remained untouched by the vinegar, being waſhed and dried, weighed five grains; and had the appearance of *colcothar of vitriol* much calcined. Strong muriatic acid repeatedly poured upon it diſſolved two grains; and nitrous acid diſſolved one grain more; and both theſe ſolutions were diſcovered to be, not clay but iron, (Berg. v. 2. p. 162.) The remaining two grains I ſuppoſed to be ſiliceous earth that had been mechanically ſuſpended in the water.

(bb) We now return to the ſolution in *alcohol*. It was evaporated to dryneſs, and weighed about nineteen grains; but the weight of the dry reſiduum was not exactly determined, as it was continually increaſing by its attracting moiſture from the air. I diſſolved it in diſtilled water, and during the ſolution there aroſe to the ſurface a quantity of blackiſh matter, of which, for a while, I did not know what to think. It did not diſſolve, either in diſtilled water, or in dilute vitriolic acid: but in ſtrong muriatic acid it readily diſſolved into a green liquor. This liquor, plentifully diluted, and tried by the teſts often mentioned before, gave abundance of Pruſſian blue, and nothing elſe: ſo that I concluded it to be iron, under ſome degree or mode of phlogiſtication different from the reſt, and perhaps acquiring that difference from the alcohol.

With regard to the ſolution from which this black matter ſeparated, *nitrated* ſilver diſcovered the acid in it to be muriatic; as indeed I had, on a former occaſion found it to be, by pouring concentrated vitriolic acid on the dry *deliqueſcent* ſalt; which raiſed the muriatic acid in white fumes, and having its own peculiar ſmell. Phlogiſticated alkali diſcovered, at leaſt the greateſt part of the ſolid matter in it, to be iron. Acid of ſugar ſhewed no lime. Every other trial I made confirmed this opinion. On a former occaſion I thought I had found magneſia in this part of the proceſs: but later and fuller trials diſcovered none.

(c c) I next examined the ſolution (c) in cold water. This liquor was at firſt colourleſs: but, when a little evaporated, it threw down about two grains of ochre. It was ſlowly evaporated in a china cup, by a ſand heat; and the cup, along with the hot ſand in an iron ladle was repeatedly ſet by, that it might cryſtallize by ſlow cooling. By theſe cryſtallizations I obtained the following products.

1. One grain of cryſtals like very minute needles, ſet together at an angle of about 60°. the appearance of which was ſomewhat like that of *ſugar of lead*; but on the tongue it was quite inſipid: and

2. Two grains more of the very ſame appearance. Theſe cryſtals did not eaſily nor entirely diſſolve in diſtilled water. The ſolution being examined, by acid of ſugar, gave lime; by *muriated barytes*, gave ſome

vitriolic acid, and by *nitrated ſilver*, gave muriatic acid. There remained about two grains of a yellow powder, inſoluble in diſtilled water, in muriatic acid and in vitriolic acid. I tried whether or not theſe cryſtals might not ariſe from the tin of the evaporating veſſel, acted upon by muriatic acid; by dropping into diſtilled water a ſmall portion of that acid, evaporating it in the ſame tin veſſel, and endeavouring to cryſtallize it: but it yielded only a pultaceous kind of magma. The cryſtals ſeem to have been a compound of calcareous earth, joined to vitriolic and muriatic acid.

3. The next cryſtallization gave an irregular maſs, weighing ſeven grains of ſmall cryſtals. This maſs being afterwards looked for to be examined, was found diſſolved into a brown liquor: which on undergoing the trials, appeared to be *muriated iron* * coloured with ochre.

4. I got four grains of perfect cryſtals, of a white colour: and

5. One grain and three fourths of the ſame cryſtals. Theſe cryſtals, when examined by the taſte, by the figure, and by all the precipitants, plainly appeared to be Glauber's ſalt.

6. Laſtly, there remained a quantity of liquor of a very ſtrong ſaline taſte. Being evaporated almoſt to dryneſs, and allowed to cool very ſlowly, it gave a ſaline maſs weighing fifteen grains. This maſs, diſſolved in diſtilled water, had very much the taſte of ſea water much evaporated; but it was not affected by precipitants as ſea water is. (Bergm. v. 2. p. 228.) *Nitrated ſilver* made it thick and very white: *muriated barytes* did the ſame: *fixed vegetable alkali* † made at firſt no

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* Iron united to the *muriatic acid.*

† Salt of tartar.

change, but after a while ſome ochre appeared in light flocks: acid of ſugar made no change; nor did muriated lime, nor vitriolic acid. *Phlogiſticated alkali* made a light blue. Hence this ſaline matter appeared to have been a compound of *ſea ſalt* and *Glauber's ſalt*, perhaps in equal parts: with a very ſmall quantity of *muriated iron*.

(dd) The ſolution in boiling water (d) being examined with *fixed vegetable alkali*, and with acid of ſugar, ſhowed a minute quantity of *gypſum*, which did not exceed two grains. On having *phlogiſticated alkali* with a little vitriolic acid added to a part of it, there appeared a light Pruſſian blue: and by the addition of nitrated ſilver, it diſcovered *muriatic acid*.

Such were ſome of the moſt material experiments which I made upon this water, repeatedly, and with all the care I could. They are neither ſo complete, nor ſo perfectly ſatisfactory, eſpecially in regard to the exact quantities of the various ingredients, as I could have wiſhed: owing to the imperfection both of my apparatus, and of my experience in chemiſtry. I am therefore ſo far from doubting that this *analyſis* might be more accurately performed by another, that I know I could do it more perfectly myſelf, if my time would permit, and if the ſeaſon of the year were proper. The uncommon nature of this water, and its great efficacy as a medicine, lead me to hope that the analyſis of it may be undertaken by ſome perſon well qualified to do it juſtice. Then perhaps the experiments choſen to be made, or the concluſions drawn from them, may differ from mine: but I hope the faithfulneſs of thoſe I have related, and the general inferences drawn from them, will ſtand the trial.

Leſt any one, after this acknowledgment, ſhould add an accuſation of tedioufneſs in the detail, I muſt mention the reaſon of the minuteneſs that appears in various parts of the proceſs. On examination I found the contents of this water very different from what I had before ſuſpected; and therefore I made many minute trials, that I might be as ſure as poſſible not to be deceived. And a recital of thoſe experiments ſeemed neceſſary to juſtify me, in affirming that this water contains iron joined to the *muriatic acid*; which combination, ſo far as I know, has not yet been found in any other water of which the analyſis is publiſhed. That it is really found in this water, the foregoing *analyſis*, eſpecially as confirmed by the following *ſyntheſis*, plainly ſhews.

Still however it ſeemed not impoſſible that a falſe concluſion might have been drawn from the appearances: for though the *muriatic acid* was found joined to the iron only, and the *vitriolic acid* to the *foſſil alkali*; yet it might be thought, that this combination was the effect of the proceſs: that in the water theſe ſubſtances might have been in the form of *ſea ſalt* and *martial vitriol*, which had not acted upon one another while diluted with much water, but when concentrated by evaporation, had formed the ſubſtances found in the water by a double decompoſition: therefore I made this trial.

(L) I diſſolved equal parts of common ſalt and of martial vitriol, in a large quantity of water, and by a moderate heat, evaporated the ſolution to dryneſs. But though I could not get the two ſalts to cryſtallize ſeparately, yet there was no mutual decompoſition and recombination; for the reſiduum continued perfectly dry, after it had been long cold, which it could not have done if the muriatic acid had left its own *baſe*, to combine with the iron, as *muriated iron* is always *deliqueſcent* *.

There is therefore no reaſon to doubt, that, in the Peterhead water, the iron is naturally joined to the *muriatic acid.*

(M) Now though the abſolute proportions of the ingredients cannot be ſuppoſed to be given by the above analyſis; yet as the ingredients themſelves are all aſcertained, let us collect them from the foregoing proceſſes, as a pretty near approach to the truth.

There are therefore in twelve pounds avoirdupois of Peterhead water, of aerated iron (F 2.) Grains 3⅓

Muriated iron (K. e. 3.) gr. 1¾; (K. e. 4.) gr. 3 (K. bb) gr. 19; (K. cc. 3.) gr. 7; in all	30¾
Muriated lime (K. e. 3. Berg. p. 179) gr. 4. (K. c c. 1, 2.) gr. 3	7
Siliceous earth (K. e. 4.)	2
Gypſum (K. dd)	2
Glauber's ſalt (K. cc. 4, 5, 6.)	13½
Common ſalt (K. cc. 6.)	7½
Fixed air (F. 2.)	Cubic inches 83⅓

Theſe articles put together ought to recompoſe the Peterhead water; wherefore,

(N) I took, of diſtilled water three parts; of water ſaturated with fixed air in Nooth's apparatus, and that afterwards ſaturated with iron, one part; and of all the foregoing ingredients, ſilicious earth and gypſum excepted, in due proportions by calculation, as above ſtated. The *muriated iron* was prepared by diſſolving iron in the muriatic acid, and then evaporating the ſolution to dryneſs. The water compounded of theſe ingredients, had, as it ſeemed to me, and to many others, the very ſame taſte as the mineral water, in point of quality; only that it ſeemed rather ſtronger of the iron.

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* Growing liquid, by attracting moiſture from the air.

It was my deſign to have made a ſet of experiments for fixing the quantity of every ingredient, ſo that every trial with all the precipitants ſhould have anſwered alike in both the natural and artificial water: but the accidental breaking of my Nooth's apparatus put a ſtop to it.

CHAPTER II.

OF THE MEDICINAL EFFECTS OF THE PETERHEAD WATER, AND THE DISORDERS WHICH IT IS ADAPTED TO CURE.

Sect. 1. *Of the ſtrength of this water.*

THE medicinal effects of the Peterhead water, as of all other mineral waters, depend on a combination of various cauſes: but in ſo far as they depend purely on the water, they are founded chiefly on theſe three parts of it, the IRON, eſpecially that part of it which is united to the *muriatic acid*, the COLD WATER, and the FIXED AIR. We cannot indeed reckon the *virtues* of this water complete without the other ingredients, as without them the *taſte* is not complete. And perhaps they may contribute to the cure of ſome of thoſe very various diſorders in which the water is found beneficial. Yet as it is not known that they are generally uſeful; as it is the ſtrengthening power reſiding in the parts of the water lately mentioned, that is uſually ſought after; and as moſt of the cures performed by the water can eaſily be conceived to proceed from thoſe parts; I ſhall here take notice of *them* only.

Iron, cold water, and fixed air, have all of them *tonic* * powers: and when they are all united, the power muſt be heightened.

Neither Pyrmont nor Spa, thoſe celebrated foreign waters, is equal to the Peterhead water in the quantity of iron, which is the moſt important ingredient in them all: for neither of thoſe, according to Bergman, contains three fourths of a grain in the pint, whereas this has at leaſt more than a whole grain to the pint (D. M.). And not only is the *quantity of iron greater* in this laſt, but it is in a *more powerful form. Aerated iron*, the only kind found in thoſe foreign waters, is ſo very eaſily ſeparated from water, that this probably happens to it in the ſtomach or bowels: and therefore, in that caſe, its effects might be confined to thoſe organs. Not that the effects of a medicine muſt be ſmall on account of their being confined to the ſtomach and bowels; for this is probably the caſe with many of the moſt active medicines. But if the effects of a medicine are great in the firſt paſſages, and are alſo extended to all the other parts of the body, being carried by the blood and lymph, it may be expected to act upon diſeaſes out of the reach of the other. And that muriated iron, which adheres ſo cloſely to water as not to be ſeparated from it but with great difficulty, is capable of paſſing withit into the blood veſſels, as common ſalt does, ſeems very probable. Whatever be in this, the Peterhead water has alſo the *aerated iron*, as thoſe famous waters have, though in leſs quantity: and its *fixed air* is alſo in leſs quantity. But I make no doubt that the tonic effect of fixed air lies much more in its rendering *cold water* pleaſant to the taſte, agreeable to the ſtomach, and eaſy to paſs off, than in any ſtrengthening power inherent in itſelf. But the taſte of Peterhead water is abundantly briſk and agreeable; a very large quantity of it can be taken without incommoding the ſtomach, and it paſſes eaſily off, with ſuch a quantity of fixed air as it poſſeſſes. And therefore the greater quantity of aerated iron and fixed air that ſubſiſts in thoſe foreign waters, is much more than compenſated, by the greater quantity of iron that this water poſſeſſes on the whole; eſpecially as it is in a much more effectual form. If therefore theſe foreign waters are juſtly celebrated for their ſtrengthening powers, the Peterhead water may be expected to excel them in that reſpect; which, in regard to the quantity and quality of its chalybeate principle, has no rival that comes up to it ſo far as I know. As to the cold water, which is probably one of the moſt important ingredients, it is unneceſſary to ſeek for any difference among them: as any of them will be ſufficiently powerful in this reſpect, of which a ſufficient quantity can be ſafely taken; and that Peterhead water may with ſafety be drank in large quantity, will be afterwards ſhown.

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* An *aſtringent* is ſuppoſed only to contract the parts, as alum held in the mouth does its parts; whereas *tonic* is uſed to expreſs what gives ſtrength and ſpring to the parts, the power of contracting or relaxing ſpontaneouſly, as the purpoſes of life require.

Some perſons, who judge only by ſuperficial appearances, will be apt to imagine that the ſuperior powers here aſcribed to this water, have no better foundation than the partiality of an inhabitant of the place: and to allege, as I have heard many do, that they have in their neighbourhood ſtronger mineral ſprings than the *Wine-well.* That they had little confidence in thoſe ſprings appeared, by their neglecting to uſe them, and coming to Peterhead for their health. Their notions are founded on the great quantity of ochery ſubſtance that ap-

appears about many of thoſe common mineral wells, at the bottom of the water, and floating on its ſurface, and even choaking up its ſtream. But this ochre was never joined to the water, as the chalybeate principle of the Peterhead water is; the greater part of it being only mixed with the water, as clay or mud may be. This is evident by their vapid taſte, and by their muddy appearance when viewed in a clear glaſs. The quantity of looſe ochre about them is no ſign of their ſtrength; but rather generally of their weakneſs and uſeleſſneſs. But though a ſpring ſhould far excel theſe common ones, it does not therefore follow that it can be compared with the Peterhead well. If they wiſh for further conviction of this, let them try *tincture of galls* and *phlogiſticated alkali* with thoſe waters, as is mentioned in the foregoing chapter: and more eſpecially, let them keep thoſe waters for fourteen days, boil, and filter them; and then try them with thoſe *teſts*; and if they find the chalybeate principle ſtill ſtrong in them, (G,) it will then be time to compare them with the Peterhead water.

Sect. 2. *Of the ſenſible effects of this water.*

The effects generally perceived after drinking this water are the following.

1. If the ſtomach is in a fit ſtate for receiving the water, having no foulneſs, nor even food in it; and if the water be taken in ſmall portions at a time, though a conſiderable quantity be ſwallowed in the whole; it ſits light and eaſy on the ſtomach, without cauſing flatulency, tumefaction, or any other inconvenience.

2. In ſome it produces a ſlight appearance of intoxication, eſpecially on beginning to uſe it; and almoſt

moſt always, not only ſound ſleep in the night, but alſo a conſiderable degree of drowſineſs through the day.

3. One of its moſt certain effects is a very hearty appetite, eſpecially for breakfaſt. Moſt people, after uſing the water for ſome days, for the firſt time, are ſurpriſed at their impatience for the hour of breakfaſt, and at the unuſual quantity of food which they find neceſſary for them.

Theſe two laſt effects are juſtly reckoned ſure ſigns of the water agreeing well with the conſtitution, and preſages of benefit to be derived from it.

4. Another effect of it is elevation of ſpirits, with an increaſe of bodily ſtrength and agility.

5. No effect of this water is more certain, where it agrees with the ſtate of the body, than its paſſing off ſpeedily and copiouſly. With regard to the bowels, like other tonics, it has ſometimes oppoſite effects on different perſons, and on the ſame perſon at different times. To ſome it occaſions conſtipation, which is reckoned a good ſign, but muſt not be allowed to come to too great a height. On others it produces the contrary effect, eſpecially at the beginning. This ſome perſons look for, as the proper ſenſible effect of the water; but that is a miſtake. Perhaps it would ſeldom have this effect, if proper precautions as to evacuation were taken before beginning to uſe it, and if proper regimen were applied during the time of uſing it. At any rate, conſiderable laxity of the bowels ought not to be allowed; for it would undoubtedly prevent the ſtrengthening effect of this water, which is its moſt valuable property, and that for which it is chiefly uſed. Without this evacuation being increaſed, thoſe by the ſkin and by the kidnies are ſo copious, as to keep the

body lean, notwithſtanding the augmented appetite. Additional evacuations would therefore be unſafe.

6. The effects upon the pulſe are various. When the pulſe is weak and ſlow, owing to pure weakneſs without pain, the water makes it ſtronger, firmer, and quicker. But when the pulſe is quick and weak, owing to pain along with the weakneſs; the water will render the pulſe ſlower and fuller. In both caſes it will bring the pulſe nearer to the natural ſtate. Again, if the pulſe is already full, and more eſpecially if it be alſo hard, the uſe of this water would be improper, as it would increaſe the fulneſs and hardneſs.

7. Contrary to the effect of other tonics, this water muſt cool the body; both by the quantity of cold matter introduced into the ſtomach, which is the *regulator* of the body; and by the ſedative power of the fixed air and neutral ſalts joined to the cold water. This is a happy effect of this medicine, as it impels thoſe who uſe it to that exerciſe which is neceſſary for the increaſe of ſtrength: and as it prevents the otherwiſe heating effects of the iron, rendering this water proper in caſes where other tonics would be improper.

8. The final effect, always wiſhed for, and generally found, is, that thoſe, who came to drink this water, feeble, diſpirited, without appetite, and without ſtrength, return home hearty and well: ſometimes having the conſtitution ſo mended, as not to relapſe into the ſame ſtate: often with ſuch a degree of recovery, as to make any remaining inconvenience very tolerable: and even in caſes where firm health can no longer be looked for, yet with as much amendment, as to ſtand the hardſhips of winter, and go on with fortitude till a new ſummer enable them to get a new ſupply.

From ſome things that have been mentioned we may underſtand how it is that mineral waters, and particularly this mineral water, may effect cures in caſes where other more powerful medicines may fail. Peruvian bark is juſtly reckoned the moſt powerful of tonics: yet in many caſes in which that medicine has not anſwered, when adminiſtered with all the precautions and aſſiſtances that could be judged proper, a ſeaſon of Peterhead water has ſucceeded. Muriated iron is indeed a very powerful tonic in itſelf: but its quantity, and conſequently its power, is here limited, by the quantity of the water that the ſtomach can bear. And this very circumſtance conſtitutes great part of the excellency of this mineral water. In all thoſe caſes where the tonic power muſt be exerted in great vigour, and in a ſhort time, we muſt have recourſe to the Peruvian bark; as in all the diſeaſes called putrid. But there are diſorders in which ſuch expedition, if it were practicable, could not avail; and the ſtrength muſt be promoted by the more gradual or alterative courſe: and ſuch are all weakneſſes of conſiderable ſtanding and ſlow progreſs. Now it has been obſerved, that, unleſs a conſiderable quantity of bark can be uſed in a *given* time, its powers become inſignificant: whereas *chalybeate* medicines never exert their ſtrengthening powers ſo naturally, as when given in ſmall quantities, and much diluted. Beſides, in caſes of much debility it is a great acquiſition to get any medicine that the ſtomach will bear, and which is able to put the conſtitution into the way of amendment, however ſlow. But bark and ſteel in the common preparations often fail, either by being rejected, or by deſtroying the appetite: in which caſe the ſtrength cannot increaſe. Whereas the Peterhead water, if given in proper quantity, generally agrees with even the weakeſt ſtomach; and by carrying off its cloying

ing viſcid mucus, as well as by ſlowly adding to its muſcular power, gives an increaſe of appetite and digeſtion. This effect is well known to all who have ever been at Peterhead. Thus is the perſon ſupported in the meantime; and the ſtrengthening effects of the water are advancing with a ſlow but ſteady pace. In other caſes Peterhead water will be effectual when bark and ſteel medicines will fail, by the diſeaſe approaching ſo near to an inflammatory nature, that the medicines now mentioned cannot be borne on account of their heating the body, rendering the pulſe quick and hard, and thus aggravating the inflammatory tendency: while this water, by its gentle progreſs, and by its cooling ſedative powers, produces the good without the bad effects.

There are other diſeaſes in which the good ſucceſs of the water might be accounted for, partly by its ſtrengthening power; and partly by the large quantity of diluting and refreſhing liquor that is ſent through the maſs of circulating fluid, carrying ſalutary additions along with it, and perhaps bringing off with it again noxious matter.

Other circumſtances ſtill there are, tending to unburden and chear the mind, which this place has in common with other watering-places, and which no doubt contribute to many of the cures which it produces.

It has indeed become uſual of late, to aſcribe almoſt all the benefit found at Peterhead, not to the mineral water, but to the circumſtances laſt mentioned. How can a perſon fail to eat a hearty breakfaſt, ſay they, who riſes before ſix o'clock in the morning, invigorates himſelf by the cold ſea-bath, waſhes his ſtomach with ſuch a quantity of water, were it no other than common cold water, and walks about in the open air till nine o'clock? And if he repeat the ſame ablution of the ſtomach from eleven to twelve, walk, ſail, or ride, from that time to three, no wonder if he have a freſh appetite for dinner. If he dine in a large company of well-bred perſons, wiſhing to pleaſe and to be pleaſed; enjoy two hours of enlivening free converſation, with a few glaſſes of wine, and often an agreeable ſong; if he meet a party of friends at tea in the houſe of ſome of the ladies, or drink tea in public, and partake of a public dance; and if, after a light ſupper, he go early to bed; what wonder is it if chearfulneſs, ſound ſleep, and forgetfulneſs of care be the conſequence; and if a continuance of a ſimilar plan; for ſeveral weeks, be followed by an increaſe of health, and ſpirits, and conſtitution? Far be it from me to deny the good effects of theſe things. On the contrary, I have often ſeen them with pleaſure; and am convinced, that if ever the Peterhead-well company ſhould greatly depart from theſe ſalutary practices, they would miſs a conſiderable part of what they hoped to find there. But ſtill, let it be allowed in the firſt place, that the well has the merit of collecting together all theſe advantages. Let it be allowed, that though other cold water might produce ſimilar good effects upon the ſtomach, if it did not firſt produce bad effects; yet there is no kind of water known in this country of which half the quantity might be drank with impunity. Let it be conſidered, that there are numbers who every year reap the greateſt advantages from this water, in that rank of life which can afford few or none of the aſſiſtances now mentioned: and that there are many who, though they can afford them, yet through bodily weakneſs cannot partake of them, and ſtill receive very great benefit *. It is uſual with many perſons in the town to ſend for a bottle of the water in the morning, and drink it through the day. Nay, it has long been a practice with ſome families, dwelling at the diſtance of many miles from Peterhead, to ſend for a ſmall caſk of the water every week, and drink it for health: and as they were all ſenſible perſons, it is not to be ſuppoſed they would have continued the practice for many years, if they had not found benefit by it. Yet here the water not only wanted all the advantages which it would have at Peterhead; but before it was uſed, it muſt have loſt the fixed air and the aerated iron, and nothing medicinal could remain in it, but the ſalts, and that modification of iron which is the diſtinguiſhing excellency of this water.

Enough has been ſaid to ſhew that this water has great and ſalutary powers. It is now proper to point out to what purpoſes its powers are adapted.

Sect. III. *Of the diſorders which the Peterhead water is fitted to remedy.*

The virtues commonly expected from this water are its ſtrengthening and its cleanſing powers: and accordingly it is applied for curing ſuch diſorders as require ſtrengthening, and ſuch as require cleanſing.

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* Out of many inſtances of this nature I ſhall mention only two. The one was a lady of very high rank, who after having done every thing that the beſt phyſicians could ſuggeſt, without any alleviation of her weakneſs and diſtreſs, came at length to Peterhead, as a laſt reſource: where, by the uſe of the water alone, without being able to enjoy the benefit of company, exerciſe, or any other aid, ſhe quickly recovered her ſtrength; and has ſince enjoyed health for many years. The other was alſo a lady, whoſe extreme weakneſs attracted the attention of all perſons in the town. When ſhe came hither, ſhe would be put out of breath, by uttering a few words; and ſhe was ſupported to and from her carriage on the hands of two maids. In the ſpace of three weeks, ſhe recovered her health ſo much, by the uſe of the water alone, as to be able to entertain company, and to walk to the well, and wherever elſe ſhe pleaſed, with much eaſe. Similar inſtances are frequently obſerved at Peterhead; and from their frequency ſoon forgotten.

1. *Of diſorders that require ſtrengthening.*

Of all the diſeaſed ſtates to which the human body is liable, none is ſo general as debility; the adventitious and accidental weakneſs either of ſome of the principal organs, or of the whole body. This weakneſs is not ſo much one particular diſeaſe, as it is an eſpecial prediſpoſing cauſe of moſt diſeaſes, and one of the moſt grievous conſequences of almoſt every diſeaſe. No doubt diſeaſes of debility may begin in any part of the conſtitution: but by far the moſt common ſeat of debility, and the ſource from which it is propagated to any part through the whole ſyſtem, is the ſtomach. This is not only one of thoſe important parts on whoſe action the health and even the ſubſiſtence of animal nature depend; but it is, in a manner, the *regulator* of the body, by that wonderful and extenſive mutual communication with, and power over, every part, which it has; by its good or bad condition determining the good or bad condition of the whole body. This may be well known to every one, who reflects upon his own experience: and it muſt be particularly known to every phyſician. For he muſt daily meet with diſorders that that put on the form of almoſt every diſeaſe that has a name; and yet turn out to be nothing elſe than ſymptoms of a bad ſtate of the ſtomach, to be cured certainly, and only, by the removal of that ſtate. A conſiderable difficulty will always lie in detecting thoſe diſeaſes of the ſtomach, under their various diſguiſes, a difficulty much to be lamented, becauſe many, owing to thoſe ſymptomatic diſorders being miſtaken for original ones, either languiſh out a life of wretchedneſs,[*] or perhaps die more ſuddenly,[†] when they might have been expeditiouſly cured at the beginning, if the diſeaſe had been known to be only a ſymptom of a diſordered ſtomach. Doubtleſs it is one of the moſt frequently required exertions of medical ſkill, to make this diſtinction: and though the moſt ſkiful and ſagacious phyſicians will generally make this diſcovery, yet the beſt may ſometimes fail to make it. If then any plan of remedy could be found, that would cure a debilitated and vitiated ſtate of the ſtomach, in all its ſtages and forms, whether recent and ſimple, or inveterate and diſguiſed; that would alſo carry off its evil conſequences; that would, in its operation, proceed ſo gently, as to give us opportunity to obſerve whether our plan were right, before any harm enſued; what a ſalutary diſcovery would it be! Such a diſcovery is perhaps, in its full extent, beyond the reach of mortal hopes: but without doubt, what comes neareſt to this is mineral water, and particularly that of Peterhead; which in almoſt all diſorders proceeding from the ſtomach has been very generally found an effectual remedy.

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[*] A girl about twelve years, of good health in general, but of an irritable temper, was ſeized with a diſorder about the throat threatening ſuffocation, which came on always after drinking tea in the afternoon. There were ſome appearances like convulſions, as froth at the mouth, turning up the eyes, and a neceſſity of ſitting or falling down. Phyſicians were conſulted, and various remedies, as *flowers of zinc*, *cuprum ammoniacum*, &c. were adviſed. Theſe things ſeeming to promiſe but a ſlow and uncertain cure, and the power of habit in fixing this diſeaſe being much to be dreaded; her parent wiſhed an emetic to be tried, hoping that the ſource of the diſeaſe might lie in the *ſtomach*. It did ſo, as appeared by the corroſive acrimony of what was thrown up. Proper *correctors*, a courſe of Peterhead water, repeated occaſionally for a year or two, and a due attention to regimen for ever after, [by which I mean, the proper management of *diet*, *air*, *ſleep*, *exerciſe*, *cloathing*, *evacuations*, and the *paſſions*;] reſtored her to her uſual ſtate of health: and ſhe now is, and has long been, ſtrong and healthy. Had not this plan been tried, ſhe might have been liable to convulſions for life.—The acrimony being *ſour*, the correctors uſed were, *ſalt of tartar* an hundred and thirty grains, *compound ſpirit of lavender* a table ſpoonful, *water* an Engliſh quart: of which a tea-cupful was taken twice a day.

[†] A man had every appearance of *conſumption*; utter loſs of ſtrength and appetite; conſtant quick, ſmall, hard pulſe, with regular aggravations daily, with cold fits, hot fits, and profuſe ſweatings, which laſt continued through moſt part of the day and night; ſevere and continual cough, with expectoration of matter ſometimes ſalt and ſometimes ſweet. Little hope ſeemed to remain, and little good likely to be done, unleſs by opiates, &c. to alleviate the ſymptoms. It ſoon occurred that even this might be a ſtomach caſe: but an emetic could not be ventured on. Being aſked, he ſaid he had *pains in the ſtomach* and *ſour eructations*, ſome time ago; but that they had *worn off* as the diſeaſe advanced. He therefore got the medicine mentioned in the preceding note. The conſequence can hardly appear more aſtoniſhing to thoſe who read this than it did to thoſe who ſaw the fact: but it was, that by uſing two quarts of the *ſolution*, and afterwards Peterhead water, he perfectly recovered his health: and within twenty days after his caſe had appeared deſperate, he was working at his buſineſs, which was that of a weaver.

Theſe diſorders are of various degrees, both of inveteracy and of ſeverity.

1. The ſtomach may be originally weak; able indeed tolerably to diſcharge its office, when all circumſtances of *regimen* are favourable; but which, on the uſe of food that diſagrees with it either by quantity or quality, by a ſudden or great change of heat or cold, by neglect of ſufficient covering or of uſual exerciſe, by allowing the bowels to be irregular by the obſtruction of any natural evacuation, or by the improper ſuppreſſion even of unnatural evacuations that have become neceſſary by habit or otherwiſe, by any violent, ſudden, or long continued exertion of body or mind, or by a great attack of anger, grief, or any other paſſion, is apt to be thrown into diſorder. When this happens, ſome degree of pain, hardneſs, or ſwelling, commonly appears in the region of the ſtomach; the appetite is diminiſhed; or there may be a vomiting, either of the food unchanged, or of tough ſlime, or of ſour or bitter liquid; the ſtomach may be diſtended with wind, by a diſcharge of which it is relieved for the mean time, but the uneaſineſs ſoon returns; the action of the bowels is de-

praved,

praved, the taſte is vitiated, there is a general uneaſineſs over the whole body; ſometimes there is a conſtant teazing cough, of a ſore throat, with a ſenſe of ſomething riſing to it; often there is pain in the head, eſpecially on one ſide of it, or with ſome perſons that very ſevere diſorder which has been called *the nail in the brow;* and often, in conſequence of theſe diſorders, even the vigour and ſerenity of the mind are affected. If a perſon in this ſituation applies for medical aſſiſtance, he commonly recovers by the help of ſome gentle evacuations from the ſtomach and bowels, followed by the uſe of *bitters*, and careful attention to *regimen.* But even then, if the ſtomach be originally very delicate, and if its diſorders have been too long neglected, it will remain for a long time in a weak ſtate, liable to be affected even by ſlight cauſes; and by more violent cauſes ready to bring on fevers or other diſeaſes, unleſs a more effectual plan of cure be followed. And here the uſe of Peterhead mineral water is generally a more effectual remedy than any other; carrying off all remains of the diſorder; often in a ſhort time, and in any ſeaſon of the year: and leaving the perſon in poſſeſſion of good appetite and digeſtion, ſtrength and ſpirits.

2. But diſorders of this nature are often more violent, owing either to the greater original weakneſs of the conſtitution, to the greater force of the diſordering cauſe, or to longer neglect of the means of cure. The cauſes that violently diſorder the ſtomach are many. All thoſe mentioned in the foregoing article, when in an intenſe degree; to which we may add, ſedentary occupations, a ſtudious life, unwholeſome food, damp ill-aired or cold beds, the ſkin and particularly the feet long wet, hot climates, intemperance, debauchery, acrimonious or poiſonous things ſwallowed, the bad cuſtom of uſing

tobacco, the unfortunate habit of drinking *ſpirits*, exceſſive evacuations of any kind, or living under the influence of grief, peeviſhneſs, or any ill-natured or depreſſing affection. The diſorders ariſing from theſe cauſes, eſpecially if they have been long continued, are more grievous; and ſo many that it would be tedious to enumerate them. Sometimes they produce that complication of lamentable affections both of body and mind, called *hypochondriacal* and *hyſterical* diſorders; which laſt complaint is uſually nothing elſe than a debilitated ſtomach, in an irritable conſtitution, diſordered accidentally by paſſion, or ſome exceſs or irregularity. Sometimes the conſequences appear in habitual head-achs, giddineſs, ſinking of the ſpirits, *, palpitation of the heart, loathing or rejection of food, flatulency, worms, indigeſtion, acid or bilious vomiting, coſtiveneſs either conſtant or alternating with diarrhea. Sometimes the diſordered ſtate brings on convulſions [v. p. 32. note] †; ſometimes a total decay of ſtrength and a waſting of the body. At other times I have known this diſorder appear as a palſy, and often as a conſumption, in which form, I have no doubt, it is often taken for a conſumption of the lungs, [v. p. 32. note.] and proves fatal to many. To theſe we may add that long and melancholy liſt of diſorders commonly called *nervous*; which are generally nothing elſe than the conſequences of a diſordered ſtate of the ſtomach and bowels, affecting other parts of the conſtitution by *ſympathy:* and moſt fevers that do not proceed from infection ariſe from this ſource. Theſe, and many more, are the conſequences of ſtomach diſorders; which are often too long neglected, till one ſymptom by its violence produces other ſymptoms, and theſe again others, by an indefinite propagation and combination: till at laſt the original diſeaſe is hid under adventitious appearances which ſometimes render the phyſician doubtful what judgment to form, and oftener what advice to give with any confidence of ſucceſs. In moſt diſorders of this kind the mineral water of Peterhead, applied after the body is duly prepared for it, is very generally ſucceſsful, producing many cures every ſeaſon where there was no hope from any other medicine.

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* I have known this ſymptom cured by this water, when it has ſubſiſted to a alarming degree: but there might be inſtances where this remedy would be very improper; for example, if the cauſe ſhould lie in a dilatation of any part of the heart or arteries near it.

† I remember long ago a very ſtriking inſtance of what is called *St. Vitus'* dance, in a young lady of about twelve years, who was ſent by her phyſician to Peterhead, after he had tried in vain bark, electricity, and every thing elſe he could think of. By the uſe of the bath and water ſhe recovered perfect health.

3. There are diſorders of debility, or perhaps of ſpaſm * ariſing from debility, where the ſtomach is not always the ſource of the diſeaſe, however it may ſuffer along with the reſt of the body; and yet theſe diſorders will generally diſappear, if the ſtomach, and conſequently the conſtitution can be brought into a ſtate of ſtrength. To moſt of the diſorders formerly mentioned both ſexes are pretty equally liable; or perhaps the female ſex may be rather more ſo, on account of the greater delicacy of their frame: and doubtleſs on this account they would ſuffer much more, comparatively, than they do, if it were not that their condition and character lead to a greater regularity of conduct, to the command of all the tumultuous paſſions, and to the conſtant action of the pious and benevolent affections,

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* An unnatural conſtruction of the muſcular fibres, when they are unable to diſcharge their office duly.

which ſave them from numberleſs evils, and in which the other ſex is too generally excelled by them. But there alſo weakneſſes and diſorders, to which they are peculiarly liable. Of theſe it would be out of place here, to give any particular account. I ſhall only obſerve, that in every diſorder to which this diviſion of the human race is peculiarly liable, however different the form may be, and however ſome may imagine the contrary, no other plan of cure is found ſo generally effectual as a courſe of Peterhead water and bathing. Of this truth every year affords many inſtances. I do not ſay that complete cures in every variety of theſe diſorders are ſo numerous in proportion, as in thoſe under the foregoing head. But ſtill they are numerous: and even when the cure is not immediately complete, the conſtitution is generally much amended, ſo as to give preſent comfort, and to prepare the perſons for the operation of time and patience, which often completes what was wanting.

Even here however the water is not univerſally proper. In all diſorders in which the patients are full of blood, have a hard pulſe, and firm fleſh, they are unfit for this remedy: at leaſt till theſe circumſtances, by proper meaſures, be changed.

4. Other diſeaſes of debility there are, which ariſe from the weakened ſtate of particular parts, or of the whole body, in ſome of which this water is a remedy.

Internal ulcers of any part, and eſpecially thoſe of the kidneys, are of this kind: and of this laſt I have a remarkable caſe under my eye at preſent, where the whole benefit ariſes from the water alone.

Dropſy alſo is a diſeaſe of debility; wherein the veſſels exhaling a fluid into the various cavities of the body for moiſtening them, from weakneſs, as is ſuppoſed, allow too great a quantity of the fluid to eſcape through them; while the veſſels that ought to take up that fluid, and convey it again into the maſs of blood, fail to do their office from want of power. This points out the propriety of Peterhead water, as a tonic and *ſtimulant*. And the modern practice confirms the uſe of it on another ground; for the ſick of the dropſy are now, not only allowed, but even encouraged to drink, as it is found that plenty of liquid ſwallowed produces a ſtill more plentiful diſcharge. But Peterhead water has this laſt property in an eminent degree. And as on this account it ought to be excellent drink during the time of the cure; ſo it ought to be no leſs beneficial, after the water is diſcharged by whatever means, for preventing a relapſe. Reaſoning thus would lead one to expect great benefits from this water: but, I acknowledge, I have not found ſo much good from it as I expected; perhaps from having expected from it, in ſome caſes, what could not be performed by any thing, and by being thus diſappointed, preſcribing it ſeldom. Still however it ſeems ſo promiſing a medicine, that it ought not to be given up: but rather the greater attention ſhould be uſed, to find out, and obviate, the circumſtances that prevent a cure.

Rickets is a diſorder in which benefit ought to be expected from this water: and I have ſeen it ſo happen.

The ſame things are true of *incontinence of urine:* which I have once known cured, by a ſeaſon of this water; even in an aged man, and where it had been brought on by exceſſive drinking. At other times, this diſeaſe has been much alleviated, though not cured.

In ſhort, there is not any diſeaſe conſiſting eſſentially in weakneſs, in which Peterhead water may not be looked upon as a probable remedy.

2. Of

2. *Of ſuch diſorders as require cleanſing.*

1. Scrofula ſeems to be one of this kind: and it might alſo have been conſidered as a diſeaſe of debility. On the firſt account Dr. Cullen ſays of it, "The remedy which ſeems to be moſt ſucceſsful, and which "our practitioners chiefly truſt to and employ, is the "uſe of mineral waters; and indeed the waſhing out "by means of theſe, the lymphatic ſyſtem, would ſeem "to be a meaſure promiſing ſucceſs." After this however, the doctor declines giving the preference to any kind of mineral water above the reſt, alledging, that as all kinds, chalybeate, ſulphureous, and ſaline, have been equally ſucceſsful, the cure, if they perform any, muſt depend upon what is common to them all, the water. If there were nothing to do but to waſh out the lymphatic ſyſtem, any kind of water might be equally ſerviceable, of which an equal quantity might be ſafely ſwallowed. But it ſeems at leaſt as neceſſary to provide a remedy, if poſſible, for preventing the ſubſequent generation of that matter which needed to be waſhed out. And this conſideration may enable us to ſee which kind of mineral water ought to be preferred. Now as a debility of the whole body is generally evident in this diſorder, and a particular debility of the *lymphatic ſyſtem* probable; therefore ſuch a *chalybeate* water as that of Peterhead, which poſſeſſes the *ſtrengthening* along with the *cleanſing* power, ought in reaſon to have the preference. As to Dr. Cullen's doubt whether mineral waters ever do good in this diſeaſe, it ſeems to me unneceſſary; at leaſt in regard to that water with which I am beſt acquainted. This well has maintained a high reputation, for a great number of years, for its ef-

ficacy in this diſorder: many reſort to it every year for that purpoſe, and go home well pleaſed with the benefit they have received: and in ſome caſes I have ſeen benefit plainly derived from it. Here the *aerated iron*, the *neutral ſalts*, and the muriated iron, which is the moſt powerful of them all, united to the water, promiſe a powerful medicine in this diſeaſe. The abundance of the *muriatic* acid in this water gives us a probable way of accounting for its good effects in *ſcrofula*, on another ground; if we allow that the ſucceſs of the *muriated barytes* * (or *ſalited terra ponderoſa*) in this diſeaſe has been eſtabliſhed on a ſufficient number of experiments. For it is probable that the efficacy of this new medicine is not confined to the union of the *muriatic acid* with the *terra ponderoſa*; but that it extends alſo to the combination of this acid with other baſes. And if ſo, its combination with iron may probably afford a medicine of ſingular efficacy. Whatever be in this ſuppoſition, its agreement in effect with common opinion, and with experience, ſeems to add ſomewhat to the confidence with which perſons in this diſorder may apply to the Peterhead water. The opportunity of uſing ſea-bathing, and of drinking ſea-water, will be to ſome an additional encouragement.

2. Gravel is another diſeaſe requiring cleanſing, for which this water is uſed. What particular fault of the kidnies it is that produces this formidable diſeaſe, or whether the fault be not confined to the kidnies, but

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* I have under my care at preſent two very remarkable inſtances of the effect of this new medicine in ſcrofula, which would lead one to expect great things from it, if begun in proper time, uſed in ſufficient doſes, and long enough continued. I had written a full account of theſe caſes to be inſerted here: but omit it, as not being directly to the preſent purpoſe.

extend alſo to the organs of digeſtion, and other ſolids, producing a depraved ſtate of the fluids, I do not pretend to know: but it ſeems probable that want of tone in the kidnies may be one part of this fault; becauſe thoſe parts are frequently on diſſection found looſe and flabby, in calculous caſes; and becauſe this diſorder is moſt apt to attack the feeble, the fat, and the aged. If there is any truth in this notion, Peterhead water muſt be uſeful in gravel as a *tonic*: and at any rate it muſt be ſo on another account, becauſe if feebleneſs be not a cauſe of this diſorder, it is a pretty certain conſequence; and this water would be one of the beſt cures for over fatneſs. But it is certainly uſeful here, by its power of waſhing away every particle of ſtony matter before it could be depoſited, and concrete. But in whatever way it happens, there is no doubt that benefit is often received from this water. Common opinion founded on experience ſhows it: and in ſuch a painful diſeaſe, the difference between health and diſorder is ſo ſenſibly marked, that any perſon who has experienced the ſtate can be a good enough judge of it. I have known the return of fits of the gravel entirely carried off by the uſe of this water, aſſiſted by a proper regimen, in a man who had experienced many of them, and whoſe brother had undergone the operation for the ſtone: and inſtances of benefit from this water, in this diſeaſe, are very common.

Yet one can eaſily conceive ſtates of gravel, in which the uſe of this water, both as a tonic and as a *diuretic*, would be improper: ſo that in doubtful ſituations, in this diſeaſe, the advice of a phyſician ſhould be had.

Theſe are ſome of the moſt common and remarkable diſorders, in which the Peterhead water is ordinarily uſed with ſucceſs. I do not pretend to have number-ed up all thoſe in which it may do good: nor do I think it neceſſary to do ſo, if it could be done. Every now and then diſeaſes are occurring, which, without proving quickly fatal, baffle all the ordinary means of cure. In ſuch caſes Peterhead water, which poſſeſſes ſo much power of doing good, will naturally offer conſolation, both to the patient and to the phyſician. And there are not wanting many examples, which for the ſake of brevity I forbear to relate, that ſerve to juſtify ſuch a practice.

3. *Of ſome other ſituations in which benefit is found at Peterhead.*

There are caſes, wherein perſons often receive great benefit from the ſtrengthening powers of the Peterhead regimen, who cannot be ſaid to have any diſeaſe. Such are thoſe of a delicate conſtitution who are confined to a town life, and perhaps cloſe application to buſineſs, or to ſtudious employments during the winter; perſons of a feeble temperament of body who are not able to go on in the ordinary buſineſs of life but with ſome ſtruggle; thoſe who are recovering from almoſt every kind of diſorders, provided the diſorders, if they were of an inflammatory nature, are truly gone, ſo that there be no riſk of a relapſe from tonic medicines; perſons who are apt to be affected with colds from ſlight cauſes, provided the lungs be ſound; pregnant women who have reaſon to fear a miſcarriage, if it be not from fullneſs; thoſe who have been exhauſted with nurſing; and in ſhort, thoſe who, on any account whatever, find their conſtitution ſtands in need of ſtrengthening.

Sect. IV. *Of ſome diſorders and ſtates for which this water is unfit.*

As there are many diſorders for which the Peterhead water is a precious medicine; ſo it is to be believed there may be others in which it might be improper, or even dangerous. This is no more than what happens to every other active medicine, and indeed to every other thing on earth; namely, that being fit for ſome particular purpoſe, it will be unfit for the contrary purpoſe. Thus abundant blood-letting will cure an inflammatory fever, even where there is great pain in the breaſt; but it would kill one in a putrid fever: and wine and bark, the chief medicines in the latter caſe, would in the former be fatal.

What the particular diſorders and ſtates are in which this water would be improper, has been partly mentioned in the foregoing ſection. It would be improper in high health; in all inflammatory ſtates of the body, internal, or even external, where it is not wiſhed to promote inflammation and ſuppuration; or where the diſorder has a tendency to go into an inflammatory ſtate. Hence it is prohibited in cough, or hoarſeneſs, ariſing from cold; in rheumatiſm with fever; and in eryſipelas: in a ſpitting of blood, in a threatening of real conſumption of the lungs, and in all ſtages of ſuch a conſumption itſelf. There are other caſes in which it would be improper from its *binding* power; as in cholick, aſthma, a ſtomach loaded with impurities; or where a ſtone is fixed in the kidneys, or in the ureters, or any other part of the paſſage. For the ſame reaſon, it might not be adviſeable, where *jaundice* is ſuppoſed to be occaſioned by a gall ſtone. In ſhort, wherever there is ſharp or violent pain, a hard pulſe, a florid face, or a fulneſs of blood, this water ought not to be raſhly ventured upon.

There are alſo ſome diſeaſes in which, though the water is uſeful in particular caſes of them, it would be improper to recommend it in general terms; as in *palſy*, or a conſtitution liable to *gout*, or *apoplexy*. In ſuch caſes it ought not to be applied without medical advice.

I know indeed, that among the great numbers who come to this well every year, with almoſt every complaint that does not confine them to bed, we may be aſſured that ſome of the diſorders for which it is here ſaid to be improper or doubtful, will frequently be tried with it: and yet we never hear of any bad accidents happening from it. This may be accounted for, as formerly mentioned, from the ſedative powers of the cold water, fixed air, and neutral ſalts, preventing the inflammatory effects of the iron, and allowing only the aſtringent and ſtrengthening powers of the water to appear. It would therefore perhaps be injuſtice to throw out too many ſcruples, which might diſcourage the poor from ſeeking after the probable benefit of this water. However, what has been ſuggeſted points out the propriety of medical advice, on many occaſions: a benefit to which people in good circumſtances will naturally have recourſe, and from which I hope the poor will never be debarred by their poverty.

Sect. V. *Of the cold bath.*

1. The uſe of the cold bath is frequently joined to that of the mineral water, and very properly, for they are both of a ſtrengthening nature, and excellent aſſiſt-

ants to each other. But there are alſo caſes in which they ought not to be joined. Cold bathing is known to be one of the ſtrongeſt *bracers* of the human frame: and ſea-water is juſtly preferred for this purpoſe. The reaſon of this preference ſome place entirely in the greater weight of the ſea-water, by which it preſſes more upon the body, and thereby braces it more than freſh water does; in the ſame manner as a moderately tight bandage will ſtrengthen a relaxed part more than a ſlacker bandage. Perhaps a conſiderable part of the preference is alſo due to two other cauſes; the moderate temperature of the ſea-water, and the *ſtimulus* it gives to the ſkin. From the vaſtneſs of its quantity ſea-water heats and cools ſlowly; and therefore never departs far from the mean temperature of the atmoſphere (48°Farenheit). Whereas freſh water, expoſed to the ſun and air, is too warm in ſummer, and too cold in winter: and water iſſuing from a ſpring, and kept covered, is too cold, at leaſt in ſummer, the chief ſeaſon of bathing. Water that is too warm will rather relax the ſkin, than brace it: and water that is too cold gives a ſhock that is very diſagreeable, and may be hurtful, by the violent effect it produces upon the nerves and blood veſſels of the ſkin, and, by the medium of them, upon the whole body. Thoſe very cold freſh water baths then, which ſome gentlemen prepare for themſelves, and value the more for their intenſe coldneſs, may, at leaſt to ſome delicate conſtitutions, be hurtful, as they are very diſagreeable. The ſtimulus alſo of the ſmall quantity of ſalt remaining on the ſkin, after it is dried, probably contributes to the ſuperior effect of ſea-bathing: by gently irritating its nerves and blood veſſels, and thereby producing that glow and ſenſible perſpiration on the ſkin, which are ſo agreeable after cold bathing, and juſtly reckoned ed a ſign that the bath agrees with the conſtitution. But from whatever cauſe the ſuperiority of ſea-water to freſh-water ariſes, the ſuperiority is certain and acknowledged.

2. As the tonic power of the cold bath is very conſiderable; however uſual it may be for perſons in high health to bathe for mere recreation, it ſhould ſeem that even more caution is neceſſary in the uſe of it, than in that of our mineral water. Not that the bath is, on the whole, more powerful in its operation than the water is: but that the effects of the bath, great or ſmall, good or bad, are more ſudden, and therefore not ſo governable. The cold bath is known to be improper for one who labours under an inflammatory ſtate of any of the parts contained in the head, breaſt, or belly; or where there is a particular determination of the blood to any of thoſe parts; that is, in a tendency to inflammation in them. And certainly it is alſo improper in the higheſt ſtate of health and vigour, where, every veſſel being on the ſtretch with its fulneſs, a ſudden contraction might cauſe ſome of them to give way. In actual inflammation the bath and mineral water are equally improper: in a tendency to inflammation, the water may *ſometimes* be uſeful: but in good health no medicine at all is ſurely beſt. But with the exceptions now mentioned, in all diſorders for which the mineral water is here commended, the cold bath will generally prove an uſeful auxiliary.

Further, as it now known that the cold bath is not univerſally even innocent; ſo it is found uſeful, in at leaſt one caſe, in which it would formerly have been dreaded: I mean in the caſe of pregnant women, who, from nervous irritability, debility, or habit, have been liable to miſcarry at a certain period of geſtation.

Sect.

Sect. VI. *Of the preparation for, and manner of, uſing the mineral water.*

1. The firſt thing to be done is, to ſee that the ſituation of a perſon be fit for the Peterhead water and bath. This, I hope, may pretty generally be done from the conſideration of the things that have been mentioned: but if any doubt remain, a perſon of good ſenſe will undoubtedly conſult a phyſician, rather than depend on the opinion of one who pretends to give advice, merely becauſe he himſelf has uſed the water, or has known it uſed, with ſucceſs, in a caſe which he conjectures to be ſimilar.

2. Before uſing ſuch powerful bracers, it will be needful to take care that nothing improper be contained in the ſtomach and bowels. A gentle purgative, perhaps beſt of rhubarb, ſhould firſt be uſed: and after that, a moderate doſe of ipecacuanha for an emetic. To begin a courſe of any tonic medicine, without firſt cleanſing the ſtomach and bowels, is very improper: not only as the medicine then very generally fails, at leaſt for a time, to produce the due ſalutary effects: but alſo as various bad effects often are the conſequences. To the purgative there can generally be little objection, from the ſtate of the patient: but if there be, a gentle doſe of caſtor oil, or ſome doſes of flour of ſulphur mixed with honey or treacle, may anſwer pretty well. But ſome make greater objection to the emetic: ſaying that it cannot be abſolutely neceſſary, as there are many who do not uſe it. Abſolutely neceſſary it is not; for the water itſelf very often produces thoſe evacuations which ought to have been made before: but not without unneceſſary trouble and loſs of time; and ſometimes the

advantages hoped for are loſt from this neglect. If therefore the reluctancy can be got over, it ſhould in general be done: as there are few ſo weak, who think of coming to Peterhead, as to be unable to bear an emetic: and the diſorders for which it is abſolutely improper are rare, and when they happen, are commonly under the care of a phyſician. But when great reluctancy to an emetic, or doubt of its ſafety, occurs, I have generally found rhubarb and alkaline ſalts * the beſt ſubſtitute. There are alſo caſes where blood letting may be neceſſary, before uſing the bath and water; as in conſiderable fulneſs, or in obſtructions: but here advice may be proper.

3. The time of uſing both the water and the bath, is when the ſtomach is not loaded with food: otherwiſe, either of them would probably cauſe indigeſtion. The proper way for thoſe who are uſing the bath and water, is to riſe between five and ſeven in the morning; to go firſt and bathe, then to take ſome exerciſe, and afterwards to proceed to drink the water. Thoſe who only drink the water, begin about the ſame time, take the quantity which they are to uſe, divided into ſeveral portions, at different times, with an interval of from a quarter of an hour to half an hour; walk about in the open air, during the intermediate times; and finiſh the morning quantity, at leaſt half an hour before the hour of breakfaſt †. About half an hour

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* Take every night and every morning, for ſeveral days, from 12 to 15 grains of rhubarb: and during the two days, uſe one quart bottle of the ſolution, page 32.

† Some have frightened themſelves and others, by ſhowing that *tea* mixed with the water grows black, like ink; and "One would not like," ſay they, "to have ink in one's ſtomach." Why not, if that ink be found to do no harm, but on the contrary, good? But if no water has been taken for half an hour before, it will have left the ſtomach; and ſo no ink will be made.

after eleven in the forenoon the water is drank again, in nearly the ſame manner and quantity: and in the evening, before ſeven o'clock, the ſame courſe is repeated.

Though the morning is, in general, the beſt time for bathing, and for beginning to drink the water; yet there are found conſtitutions ſometimes, in which the forenoon hours anſwer beſt for both purpoſes. But if no real harm ariſe to the conſtitution from uſing the morning hours, indolence ſhould never be allowed to prevent the greater benefit of that ſeaſon. Some few have drank the water in bed, and ſlept after it: alledging that thus it agreed with them, when it diſagreed every other way. Perhaps if all the proper rules were followed, this would ſeldom be the caſe.

4. The *quantity* of the water to be drank is various, according to various circumſtances. It is a good *general rule*, to *begin with ſmall quantities*, and *advance gradually to greater quantities, as the ſtomach becomes able to bear them.* In the very weakeſt ſtates, half a gill may be taken at firſt in a forenoon, and if that ſhould lie heavy on the ſtomach, the mineral water may afterwards be mixed with half its quantity of common ſpring water, or rather perhaps with water impregnated with fixed air. The ſame quantity may be again taken at the evening hour: and as ſoon as poſſible it ſhould be taken before breakfaſt. It is proper next to increaſe the doſe, not ſo much by augmenting the quantity taken at once, as by repeating the draught, after an interval. Then the quantity taken at a draught may be gradually augmented, till it amount to about half a pint (two gills): and this quantity taken three times, at each of the times of drinking, [that is about four Engliſh pints and a half, a day,] is, I believe, as far as any perſon needs

to go: and on many occaſions it might be better not to go ſo far *. Thoſe who are not very weak, after the body is prepared as before mentioned, begin with a gill at a draught, thrice a day; and may ſoon bring themſelves to the quantity above mentioned.

The *time of continuing at the water* has its limits commonly ſet by other circumſtances, thoſe of buſineſs, or family concerns, rather than by the conſideration of the ſpace requiſite for the plan producing its full effect. If nothing hinder, it might be right to ſpend ſeveral months at Peterhead. Six weeks however are reckoned a moderate trial: but leſs than three weeks, or two at the leaſt, no one ſhould reckon any ſort of fair trial of the benefit to be had from this water: although I have ſeen great good done, in even leſs than one week.

Sometimes, when one continues long at the water, it is not amiſs to intermit the uſe of it occaſionally for two or three days. This time ſhould be well employed in ſome excurſion: and this will prevent the Peterhead regimen from becoming habitual, and therefore inactive, to the conſtitution.

It is proper to obſerve, that ſome perſons find little ſenſible benefit, even after continuing many weeks at the bath and water: who yet, after returning home, receive the advantages wiſhed for.

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* Yet many uſe much larger quantities, apparently without harm. An eminent gentleman, who lately died at a great age, attended this well every ſeaſon, for perhaps the laſt thirty years of his life: who drank daily about two wine gallons and a half, and reaped great benefit from it; though probably the benefit might have been greater, if he had drank leſs of it. And of the great crowds of country people who frequent this well, many are affirmed to drink with benefit four gallons and a half daily: under the notion, that, as they can ſtay but a ſhort time, it will anſwer the ſame end if the quantity of water be taken, whether the time be long or ſhort. In this they are certainly miſtaken: but the fact is ſurpriſing, and ſhows uncommon qualities in the water.

5. The *effects* produced by the water muſt be attended to, and, if inconvenient, obviated. It is uſual and proper, after each draught of the water, to eat ſomething of the warm and cordial kind; commonly caraways, or ginger tablet, or peppermint drops; in order to prevent the cooling effect of the water from diſordering the ſtomach. If this ſhould be found inſufficient, a glaſs of peppermint water, or ſome drops of eſſence of peppermint, or a tea ſpoonful or two of the *bitter tincture*, on a bit of ſugar, may be taken: and, unleſs in caſes of extreme neceſſity, *drams* ought not to be uſed, not only as it is a dangerous practice, the beginning of which ought to be dreaded; but alſo, as they might do full as much harm to the ſtomach as the water could do it good.

When at any time the water cannot be retained on the ſtomach, it may proceed from having neglected previouſly to cleanſe the ſtomach and bowels: in which caſe, what was omitted then ought ſtill to be done. Or it may proceed from great weakneſs and irritability of the ſtomach; and then, diluting the water with a little common water, or uſing ſome of the cordial things above mentioned, will often be of ſervice: and ſometimes perſeverance will anſwer the end, when other things have failed.

Although it is uſually reckoned a ſign that the water will do good, when it produces coſtiveneſs; yet this habit of body, being always hurtful, muſt not be allowed to continue. For counteracting it, ſome uſe a ſmall quantity of ſea-water, from one to two or more gills, every morning. If the water is uſed for any ſcrophulous or eruptive complaint, this plan may be uſeful: but if weakneſs of ſtomach is the diſorder, ſea-water ſeems not well calculated for it, as being generally diſagreeable. DULSE [Fucus Palmatus, Linnæi], is commonly a more acceptable help of this kind. But though long cuſtom has, with many, fixed the uſe of theſe two articles, to the excluſion of all others; yet there is no reaſon why a little rhubarb, aloes, ſulphur, or caſtor oil, according to the ſituation of the perſon, may not be uſed with fully as great advantage.

On the other hand, the contrary extreme would be no leſs improper. Some perſons, eſpecially of the lower ranks, think that this muſt be the certain effect of the water, if it is to do good: and accordingly, they drink ſea-water, in large quantities, along with it. That robuſt people are not hurt, but rather helped in various diſorders, by this courſe, is no ſort of reaſon why weak or delicate perſons ſhould uſe it. Whatever were to produce ſuch an effect upon them ought to be abſtained from; as being the ſure means of bringing down their ſtrength, and perhaps of rendering their diſorder irremediable. If this inconveniency do not ariſe from the neglect of the precautions formerly recommended (2.), it may go off in a day or two: and if this do not happen, the doſe of the water may be leſſened; ſome cordial thing may be taken with it; it may be drank in a warm chamber; an under waiſtcoat of a ſingle fold of flannel may be added to the former apparel; and due care muſt be taken, by warm ſtockings and ſhoes, that the feet be not cold. If all theſe things fail, and the diſorders continue to a hurtful degree, then five or ſix drops of *thebaic tincture* may be taken on a bit of ſugar, immediately after drinking the water.

6. In regard to the cold bath, all the previous attentions recommended above, in the uſe of the water, ought to be applied. That the bath may produce its

full ſalutary effects, it is neceſſary that the cold water ſhould have immediate acceſs to every part of the ſkin equally: and therefore no coverings ſhould be uſed.

The practice eſtabliſhed on reaſon is, to jump into the water head foremoſt: and as this ſhould be done immediately and with ſpirit, all contrivances of ropes, or the hand of another perſon to hold by, ought to be rejected as inconvenient, producing delay, timidity, and even danger. To creep into the water with the feet foremoſt, is to ſuffer many ſevere diſpiriting ſhocks, for fear of encountering one briſk enlivening ſhock: and beſides, that practice may be hurtful, in various ways. There is no danger in jumping head foremoſt into ſea-water as high as the breaſt: the head cannot touch the bottom: the body can come up no way, but with the head above and the feet below; becauſe the upper part of the body, including the breaſt, of which a conſiderable part is filled with air only, is lighter, bulk for bulk, than the lower part of the body conſiſting of ſolid fleſh and bone: and when once the head has got uppermoſt, the perſon, without any ſenſible exertion, takes footing. The wrong ways of bathing therefore are the bad effects of unreaſonable timidity, founded on inexperience only: for whoever has once tried the right way, finds it to ſuch a degree the moſt eaſy and pleaſant, that he could not be prevailed on to alter it.

As to the *frequency* of bathing, attention muſt be uſed. In every plan for ſtrengthening the human body, we ought to exert ourſelves only in proportion to the ſtrength of the patient at the time then preſent: otherwiſe, we defeat our own aim. I have known the ſtrength *reduced* by too frequent bathing. A weak perſon ſhould, at firſt, bathe only twice a week: after the ſtrength has a little increaſed, he may bathe once in two days, and once in three days, alternately: then, when the ſtrength is conſiderable, he may bathe once in two days; and beyond this in frequency moſt perſons of a really feeble frame ought not to go. Others again, of a, conſtitution naturally ſtrong, but only accidentally ſomewhat reduced, may come to bathe every day, for ſeveral days ſucceſſively: though even in that caſe the better way is not to continue long at that rate, without intermiſſion.

7. It is often enquired what is the proper diet for one drinking the water. When we deſire to ſtrengthen the body, generous food and drink are preferable to the contrary kind. But in effect thoſe kinds are beſt which are found to agree beſt with the conſtitution: and the common effect of the water is, to make the ſtomach agree with almoſt every kind of food. But more attention is due to the quantity than to the quality of what is eaten and drank. Too large a quantity either of food or drink, inſtead of ſtrengthening the body, weakens it: and therefore, neither the ſharpening effect of the water and air, nor the deſire of ſhewing the great effect they have had, ſhould ever induce one to eat beyond the moderate bounds of reaſon. The ſupper in particular ſhould be light; and both it and the going to bed ought to be early. The neceſſity of ſobriety needs hardly be mentioned. For any perſon to come hither in queſt of health, and yet to drink wine daily beyond the bounds of moderation, would be the greateſt imprudence. It would be to act in direct contradiction to one's own profeſſed purpoſe. Temperance and ſobriety, an active uſeful life, and early hours, would be our intereſt at all times, as conducing to health of body, ſerenity of mind, and long life: but to neglect them at Peterhead, would be particularly abſurd.

CHAPTER III.

OF THE TOWN OF PETERHEAD, ITS NEIGHBOURHOOD, AND ITS AIR.

AS the ſatisfaction of the mind contributes to the acquiſition of health; and as all the objects around us, with which we are connected for the mean-time, have an influence on the ſatisfaction of our minds; therefore the town in which they are to live, its inhabitants, and all the things relating to it cannot, but be, in ſome meaſure, intereſting to thoſe who come hither for health; and for this reaſon ſome account of them may be expected here.

Sect. 1. *Of the Town of Peterhead.*

This is a clean, neat, little town, built upon a peninſula, incloſed by the ſea almoſt three-fourths round. The greater part of the ſhores about this peninſula are compoſed, either of granite rocks, or of a beach of ſmall ſtones, which, in general, have a delightful purity. The ſtreets are open, ſtraight, generally clean and dry below, and giving a free courſe to the freſh air above. Nothing is allowed to remain on them that can contaminate the air, or offend any of the ſenſes. Moſt part of the houſes ſtand in regular order, eſpecially the lateſt built: which are generally of hewn granite, and neatly finiſhed. And in the inſide of the houſes of people in every rank, if you do not always find coſtly furniture, you will for the moſt part meet with cleanneſs and neatneſs.

The *Public Buildings* are all decent, and ſuited to the propoſed ends: and ſome of them are elegant.

There are four places of publick worſhip; the Pariſh Church, a Church of England Chapel, a Scots Epiſcopal Chapel, and a Seceder Meeting-Houſe: all of them are neat buildings, and each of the epiſcopal chapels is furniſhed with an organ.

The harbour is a beautiful and important work. Being ſituated on the moſt eaſterly land in Scotland, ſhips can get into it when they can touch no other part on the eaſt coaſt. It is the beſt harbour on the eaſt coaſt of Britain for ſhips bound to the ſouthward to take ſhelter in; as they can get out with any wind that can carry them to the ſouthward, however ſtrong it blows. Cloſe by it is a fine bay, nearly of a ſquare form, about a mile in length, and three quarters of a mile in breadth: where ſhips of any burden, and in vaſt number, can ride at anchor, ſafe from every land wind, that is from all winds except ſuch as blow between the ſouth and N. N. E. On account of theſe advantages this harbour appeared of ſo great importance, that ſome years ago government gave 3,500 l. the royal boroughs of Scotland gave 500 l. and the governours of the Merchant Maiden Hoſpital (the ſuperiors of the place) gave 300 l. to aſſiſt the town in erecting a harbour more commodious than it had before. Accordingly there is now a very fine baſon, capable of containing from forty to fifty ſail of veſſels: incloſed by two beautiful piers of hewn granite, of excellent workmanſhip, with all kinds of accommodation for ſhipping. In this harbour ſhips now lie without beating, in whatever agitation the ſea may be without: which was not the caſe till the preſent harbour was built. The depth of water in the harbour is eight feet at neap tides, and fourteen feet at ſpring tides; much leſs indeed than were to be wiſhed in a place of ſo much publick utility: but the inhabitants of the town have ſpent much money and labour in deepening the baſon, and no doubt will continue to do ſo.

Cloſe by the harbour is a good battery of eight guns, which was built for the defence of ſhips in the bay and harbour, in the time of the late American war: and for which government gave eight fine pieces of cannon, four eighteen pounders, and four twelve pounders. Of this gift the people ſhewed themſelves not unworthy, by beating off the noted pirate Fall, who was coming to ſeize ſome veſſels that were riding at anchor in the bay. As this battery, which ſerves well for the defence of the bay, harbour, and town on the ſouth-ſide, could be no protection to the town from ſhips that could fire upon it on the north ſide, with the view of extorting a ranſom; a battery for four guns was built on the north ſide of the ſmall peninſula on which the greater battery ſtands, commanding the whole extent of ſea to which the town is expoſed: and to this cannon were occaſionally moved from the greater battery.

The Town-Houſe is reckoned an elegant building: and its ſpire, which is about an hundred and twenty-five feet high, built from a plan of Mr. Baxter architect, all of hewn granite, is eſteemed a fine ornament to the place. The loweſt floor of this houſe is given for a market-place: the middle or principal is dedicated to one of the moſt important uſes in ſociety, the education of youth; and affords two of the largeſt and beſt lighted ſchool rooms in this country. Theſe are filled with claſſes learning the Latin and Engliſh languages, writing, arithmetic, navigation, and geography; each article at its proper hours, under two learned and attentive maſters. The ſteeple is furniſhed with a clock and bell, both of the fineſt quality.

The Mineral Well is contained in a ſmall reſervoir of ſtone, ſituated at the end of an oblong incloſed ſpace; round which are ſeats of free-ſtone, for the accommodation of ſuch as chooſe to drink the water in the open air. Adjoining to this ſpace is the Maſon-Lodge, in the lower ſtory of which are the water room, and the baths. The water (or pump) room is conſtantly attended, at all the hours of drinking the water, by a decent, cleanly, attentive, elderly woman, who keeps the well in good order, ſerves the company with water, orders fire in the rooms when cold or rainy weather makes it neceſſary, and aſſiſts the ladies in bathing; and who has her living from the gratuities given her by the well-company for theſe ſervices. Near to the water room, is the ladies bath, which is made of wood, four feet deep, and contains when filled about 228 cubic feet of water. The gentlemens bath is entered by another external door, at a greater diſtance; is of free-ſtone, four feet and a half deep, and contains about 225 cubic feet. Adjoining to each of the bathing rooms there are dreſſing cloſets. On the floor above theſe rooms there is a large hall, of which the company have the uſe for dancing, and ſometimes for a tea-room. The dues for the pump-room and bath are, a crown for the former, and a guinea for the latter during the ſeaſon, or a ſhilling for each time of bathing. There is alſo a billiard-room on the ſame floor with the dancing-room; but it is private property, and thoſe who uſe it pay for it. Over againſt the Maſon Lodge ſtands the New Inn, where the ordinary for dinner, and ſometimes for ſupper, is kept. The dining-room is a large hall, of forty-four feet long, twenty-two feet wide, and twelve feet high; which has, on many occaſions, contained near ſixty perſons at dinner.

The company are all accommodated in private lodgings through the town, which are let at a very reaſonable rate per week: and the only ſhadow of conteſt between the ſtrangers and the town's people is, who ſhall excel the others in all manner of obliging behaviour. In this manner the company have hitherto been lodged: but if ever the number reſorting to the well ſhould be greater than the town's people can accommodate in their houſes, it would probably be right that the Merchant Maiden Hoſpital ſhould erect public buildings for this purpoſe, and engage proper perſons as a ſuperintendent and ſervants for the ſeaſon.

The inhabitants of this town are taken notice of by ſtrangers, as an obliging, decent, ſober, induſtrious ſet of people. Though the advantages ariſing from the well-company are confined to people in ſome particular ſituations, while many others rather ſuffer by the riſe of the price of proviſions, and other neceſſaries, which they occaſion; yet all perſons are pleaſed with their coming, and delight to ſhow them every good office in their power. Nor is this good will to the ſtrangers influenced even by the hope of pleaſure from their ſociety: for the town's-people, conſcious of the ridiculous folly of deſiring the company, or imitating the manners of people whoſe fortunes are above theirs, avoid all intercourſe of entertainments and other expenſive communications with the ſtrangers, and, happy in their own ſtations and employments, have no interference but in the reſpectful and kind interchange of good offices.

Being thus attentive, every perſon to his own buſineſs, they are, in general, opulent for their reſpective

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Being thus attentive, every perſon to his own buſineſs, they are, in general, opulent for their reſpective ranks. Having no expenſive follies to gratify, and being induſtrious and active, they can generally afford all the comforts of a decent, moderate, civilized life. Drunkards, or waſters of any kind, are hardly known; and accordingly there are few indigent perſons. And though in the ſummer beggars often appear in the ſtreets; yet they are not natives, but commonly indigent Highlanders, allured by the hope of reaping ſomething from the bounty of the affluent. Idleneſs, the parent of moſt vices and of moſt diſeaſes, being almoſt unknown, the people are, in general, healthy and virtuous.—The ſame ſobriety and attention has its influence upon the civil life of the inhabitants. Their artiſts are admired for ingenuity and dexterity in their profeſſions. One cabinet-maker has made two organs, celebrated for the fineneſs of their tones; and another has made one. There is a famous turner in this place, whoſe beautiful works in ivory, and in ebony and other fine woods, are ſold, to a conſiderable yearly amount, chiefly in England. And Peterhead has long been in repute for the beſt bread any where to be found, that of London or Paris not excepted.

To this ſober and induſtrious ſpirit of the inhabitants, joined to the great advantages the town receives from the harbour, and the very conſiderable benefit it has from the mineral well, it is owing, that Peterhead, which has long been looked upon as a thriving ſmall town, has of late years advanced with a rapid progreſs, in trade, ſize, and number of inhabitants. About twenty years ago there were only two manufactures in this town; one of fine ſewing thread, the other of thin woolen cloth. There are now three conſiderable manufactures of white ſewing thread, which import yearly 2483 mats of rough flax from Holland, and employ

218 perſons, beſides ſpinners in great numbers, but not eaſily aſcertained. There are two woolen manufactures, of narrow cloths, thin woolen ſtuffs, and temmies; which employ from 55 to 65 looms, from 200 to 250 ſpinners, beſides *jennies*; and make yearly from 46,000 to 58,000 yards of cloth. There is one ſmall manufacture of linen cloth, which employs 10 looms, 14 ſhop-men, from 30 to 40 ſpinners; and prepares about 15,000 yards of cloth annually. There is a branch of a cotton manufacture lately eſtabliſhed here, which employs 10 looms with the fly-ſhuttle, and 4 aſſiſtants; and prepares at the rate of 6 yards of cotton cloth per day, each loom: the cotton is ſpun in Aberdeen. There are two ſmall manufactures of coloured thread; which import yearly 350 mats of flax, and employ 22 perſons, beſides ſpinners. And there are ſome ſmall manufactures of other articles, which I need not mention. All theſe branches of buſineſs have ſprung up within the laſt twenty years; and we hear of various others ſoon to be eſtabliſhed. The good effects of theſe are evident, in the employment of many perſons that would have been little uſeful to ſociety, and the comfortable maintenance of many families.

Ship-building has long been carried on here; and of late has increaſed.

One ſhip, belonging to ſome gentlemen in Peterhead, is employed in the Greenland whale-fiſhery, and has 36 men. Of five voyages made by this veſſel, two have been tolerably ſucceſsful.—In the Barra-head fiſhing, begun 1773, there are employed two, and ſometimes three ſhips, each having about fifteen men, and bringing home each from ten to fifteen tons of cod and ling fiſh, which are uſually exported to Spain.

The ſhipping belonging to the harbour amounts to about 2,600 tons, and employs about 300 or 400 ſeamen.

The town employs, in the Baltic trade, about two veſſels; in the Norway trade, five or ſix veſſels. There are made, in the London trade, twelve or fourteen voyages, yearly; in the Newcaſtle and Sunderland trade, ten or twelve voyages; and one or two voyages to Holland for flax.

The *exports* are, of fiſh catched on the coaſt and exported, 400 barrels of cod, and 60 barrels of ſalmon; of kelp 60 tons, commonly ſent to Leith; of granite ſtones about 1000 tons, ſent to London; of butter 44 tons, value 2772 l.; of cheeſe, 24 tons, value 432 l.; of grain, at an average of the three laſt years, (of which the laſt was very deficient,) in meal, malt, oats, *bear*, and peaſe, 14,531 bolls, yearly.

The *imports* are, wood from Norway, value 1500 l.; wood from Spey, Inverneſs, &c. value 500l.; iron, from Sweden, 30 tons; and a larger quantity is brought from Leith, and other places; coals, from Newcaſtle, Sunderland, and the Firth of Forth, 2500 bolls; ſalt 4000 buſhels; lime 3000 bolls.

From the increaſe of the trade of the place, the number of its inhabitants muſt alſo increaſe. In the year 1764 their number was 1500: and by a very accurate enumeration made in the year 1790, they were found to amount to 2,550; of which 1097 were males, and 1453 were females. At that time there were in the town 21 perſons from 80 to 85 years, two of 85, one of 86, one of 87, two from 90 to 95, and in the pariſh one beggar woman of 105. Moſt of theſe aged perſons are ſtill alive.

The number of houſes, in 1790, was about 500:

and the value of the houſe rents, about 1500l. Theſe three articles have made a rapid increaſe ſince the laſt mentioned period. Within twenty years the ſize of the town is almoſt doubled: owing not ſolely to the increaſed number of inhabitants, but alſo partly to the increaſed ſpaciouſneſs of the new buildings and of the new ſtreets. The ſame growing ſtate ſeems likely to continue: for the houſes are extending along the former highways, and two new ſtreets are about to be opened into the fields.

This town has a weekly market on Friday, which is well ſupplied with moſt kinds of proviſions; from a plentiful country, and a ſea well ſtocked with excellent fiſh, around it. Beef, mutton, lamb, veal, pork, poultry, butter, cheeſe, and eggs; haddock, cod, whiting, ſalmon, turbot, halibut, flounder, ſkate, mackerel, crab, and lobſter, &c. are to be had in abundance, and moſt of them in the greateſt excellency. The prices of moſt of theſe articles are raiſed from one half to three or four times more than they were twenty years ago: yet in all articles of fleſh-meat the prices here are much the ſame as in other towns in Scotland: and, in many articles of fiſh, they are leſs than in moſt towns. Moſt articles of vegetable food, whether the produce of the field or of the garden, are to be had: but it has often been matter of complaint, that of theſe there is, as yet, neither that variety nor that plenty that could be wiſhed. The excellency of the bread has been mentioned before. Other accommodations, of grocery ware, wines, drugs, cloths, and moſt other things expected in retail ſhops, are to be found in abundance.

Sect.

Sect. 2. *Of the Neighbourhood of the Town.*

The pleaſing ſcenes that every where ſurround this place are a great inducement to ſtrangers to be much in the open air, which is of great importance to the acquiſition of health. On the ſouth-ſide we have the bay, which is a very beautiful piece of water. Along the ſide of it there is an extenſive walk, where one enjoys the benefit of air immediately freſh from the ſea, which has a powerful effect in promoting appetite for food and digeſtion; and often is amuſed with the view of many ſhips riding at anchor hard by. On this piece of water ſome of the company, in fine weather, take the exerciſe and amuſement of ſailing: and ſometimes extend their excurſion further along the rocky and romantic coaſt that lies to the ſouthward. In the receſſes of theſe rocks a party ſometimes chooſes for a frolick to dine, in apartments inexpreſſibly grand, and on gigantic tables, formed out of the rock by the hand of nature; enjoying at the ſame time the view of the clear ſky and ocean, the voice of the various ſea-fowl, and the murmur of the water gently riſing and falling among the rocks. At other times they viſit the *Bullers of Buchan*, and other groteſque places of the neighbouring coaſt; of which, there is a deſcription, with plates, in the Reverend Mr Cordiner's Antiquities and Scenery of the north of Scotland.

Towards the eaſt, we have, from the mineral-well, an excellent and much frequented walk; firſt along the harbour, frequently filled with ſhips from many different ports, and the ſides of which always abound with men buſied in various employments; then into the ſmall peninſula called Keith Inch and the Quinzie, (Scotch pronunciation of the French word *coin*, corner,) where you firſt meet with the South Pier, which on its broad platform affords an excellent walk, always dry under foot, being paved with hewn ſtone, and ſheltered from eaſterly and ſoutherly winds; and next you have the Caſtle, an old lofty edifice, noticeable for having been an ancient manſion of the Mariſchal family. It is ſtill intire, but now converted into a ſtore-houſe for goods. Then you find the Guard-houſe and the Battery adorned with eight cannon, and a paliſade round it. Proceeding onward you have a very pleaſant walk, much frequented by many of the ſtrangers, eſpecially thoſe of the more contemplative ſort. From this walk, which is on the Buchan-neſs, one may ſee the meridian line cut by the German Ocean, both to the ſouthward, and to the northward: and here you enjoy, in good weather, a very extenſive ſea-proſpect, and as fine, refreſhing air as can be had any where. Next you may proceed round this ſmall peninſula, by the little battery, and ſo return into the town.

On the weſt ſide of the town, and partly along the head of the bay, lies a fine ſandy common covered with ſhort graſs, called the Links. Here the gentlemen often enjoy the ſalutary exerciſe of Golf: and here alſo might be uſed the exerciſe of ſhooting with the long bow, now, happily for health, become again faſhionable. This ground alſo affords an excellent plain for walking; as the ſand immediately abſorbs water, and renders it dry under foot in a very ſhort time after the heavieſt rain.

From the town, roads ſpread out in every direction through the country, amidſt fertile fields, and along gently riſing grounds; and theſe are in ſummer very ſmooth, ſo as to afford convenience either for walking or riding. At about the diſtance of a mile from the town, towards the north, lies a beautiful though ſmall river, the Ugie, on which is a ſalmon fiſhing. Its water is ſtored with trouts, and its winding banks are covered with a great variety of plants; thus offering the amuſement, either of angling, or of botaniſing, to thoſe who delight in them. On the other ſide of the river, in territories formerly belonging to the earl of Mariſchal, lies a moſt beautiful down, extending nearly ſix miles in length, and from a quarter of a mile to half a mile in breadth. Here is the fineſt ground imaginable, for the exerciſe of golf, ſhooting, or riding.

For thoſe who cannot bear ſuch diſtant excurſions, the roads about the town, and even the ſtreets within it, being open and clean, afford walks both agreeable to the view, and uſeful for fine air.

There are alſo ſeveral places in the neighbourhood that anſwer as *terminations*, or propoſed *objects*, of a walk or ride. On the ſouth, at the diſtance of a mile and a half, there is the *Meet-hill*, as it is called, which is a large artificial tumulus, on the top of a little hill; whence there is an excellent proſpect of the town, bay, harbour, and both of the ſea and of the country for a great extent. About three miles further, in the ſame direction, lies Boddom Caſtle, the once hoſpitable ſeat of a family of the name of Keith, and of the rank of baronet. This houſe has no proper claim to the name of Caſtle: but it is a reſpectable ruin, and makes a good appearance from Peterhead. It is ſituated on a ſmall tongue of land, divided from that on every ſide, by long narrow deep precipitous gulfs. This place ſtands at the *bottom* of the *Stirling Hill;* from which circumſtance its name may poſſibly be derived. From it the Stirling Hill riſes ſuddenly to a conſiderable height, and from its ſummit gives a very extenſive proſpect; reaching to the head-land to the ſouthward of Aberdeen, 28 miles; and to Rattray Head northward about 14 miles, as well as far over the ſea and over the land.

On the north-ſide of Peterhead, you have firſt a wind-mill, upon the top of a fine eminence, and from it you enjoy a beautiful proſpect of the town, bay, and adjacent ſea. Cloſe by the mill there are the ruins of an abbey. Whether it has happened from the great length of time ſince this abbey was deſtroyed, or from its never having been a place of much conſequence, I cannot tell; but ſo it is that it is not much known, even in Peterhead. All that now remains of it is very little: ſome pieces of very thick wall built with what is called *run lime;* vaſt heaps of grey ſlates that have once covered it; the foundations of one large houſe, which were lately more conſpicuous; and a very indifferent ſpring at a little diſtance, called the Abbot's Well. A ſtone coffin full of bones, the pavement of a court, the foundation of the houſes forming the court, and a monumental ſtone with figures and letters on it, were lately ſeen, but are now covered with earth.—Further on the ſame road you come to the bridge of Inverugie, which has two large arches, and is of ſome antiquity: and proceeding about half a mile further, you come to the caſtle of Inverugie. This lofty and venerable ruin was once the princely manſion of the noble and renowned family of Mariſchal; the founders and patrons of Mariſchal College Aberdeen, and of the town of Peterhead: and the owners of a great eſtate in this neighbourhood. This ſtately building ſtands at the diſtance of a mile and a half from the ſea, and two miles and a half from Peterhead. It is ſituated on the bank of the river Ugie, which forms a ſort of ſemicircle before it: and the area of this ſemicircle, which has been laid out in the way of utility and ornament to this Caſtle, is terminated by a beautiful ſweep of a ſteep riſing ground, immediately beyond the river, which bears a great variety of plants. Some of the trees that anciently graced the Caſtle ſtill remain. But from the ſtrange reverſes that take place in *this changeful ſtate below*, this once ſuperb manſion is now converted into a brewery of porter and beer, and the pleaſure-ground near the houſe into a very fine bleachfield. About half a mile further up the river appears Raven's Craig, a beautiful ruin of a very old caſtle. This houſe in latter days belonged to the family of Mariſchal. It muſt have been intended for a place of defence; as appears from its very thick walls, its ſituation on a rock hanging over the river, its loopholes for ſhooting through with bows and arrows, and ſome remains of intrenchments around it.—Neither of theſe two houſes was the moſt ancient ſeat of the Mariſchal family: for on a riſing ground near the mouth of the river, we find ſome heaps of ſtones almoſt overgrown with the ſandy earth; and this, it is ſaid, (not without probability from the name, which ſignifies a place near the end or mouth of the Ugie,) was the ſite of the original houſe of Inverugie. Proceeding from the Caſtle on the north road, we come to a bye-road, leading to the links of Inverugie, formerly mentioned: and on this extenſive plain, at the diſtance of five miles from Peterhead, lies a very ancient church yard, filled with tombs of uncommon ſtructure. Here is the monument of the grandfather of the famous wit, philoſopher, and phyſician, Dr. John Arbuthnot; who derived his origin from this place, and does it honour. Hither contemplative perſons often direct their ride; for the beauty of the ſcenery by the way, and to enjoy half an hour of melancholy pleaſure among the tombs, in peruſing the memorials of thoſe who have long been in that ſtate in which we ſhall ſoon be.

Sect. 3. *Of the Air of Peterhead.*

This is perhaps one of the moſt important circumſtances belonging to the place. Moſt people, on coming to Peterhead, ſay they feel ſomething very keen and cold in the air. This coldneſs is partly owing to the ſea vapour, and partly alſo to the greater freſhneſs and purity of the atmoſphere of this place; for in ſummer foul and ſtagnant air is ſultry. The purity of the Peterhead air is attended to by every perſon of obſervation: and is eaſily accounted for. There is no marſh, or any other cauſe to taint it within many miles, on the land ſide: and as the town is on three ſides ſurrounded by the ſea, and as the wind blows the greateſt part of the year over ſea-water towards the town, its air will generally have all the purity of ſea air. Here then the valetudinarian enjoys almoſt all the advantages both of the ſea and of the land, without being expoſed to the inconveniencies of either. It has indeed been diſputed whether ſea air be purer than land air; and whether it be more fit for ſickly people. As to the purity there appears to me little room for diſpute. Land air is contaminated by noxious vapours that ariſe from fermentations, from the putrefaction of animal and vegetable ſubſtances, from excrementitious matter, from the reſpiration and perſpiration of animals, from the effects of fire on minerals and metals, from many operations on animal and oily ſubſtances; by marſh effluvia, and by human contagion: from all which ſea air is in a great meaſure free. And though numberleſs animals and vegetables live and die in the ſea as well as on land: yet the whole economy of their life and death is carried on in a manner ſo different from what takes place on land, that I believe there is no comparative proportion of noxious air extricated.

But the effluvia abovementioned are the things that taint the air, and render it nauſeous, and pernicious to animal life, in proportion as they abound in it *. Thus ſea air is purer than land air.—At the ſame time the air of Peterhead, as being ſea air, is more moiſt than the air of many parts of the land †. But moiſture does not neceſſarily render air unwholeſome: it is ſo only when the moiſture is accompanied with ſome of the noxious exhalations lately mentioned; as in ill-aired and uncleanly dwellings, in crowded houſes and narrow ſtreets, in marſhy ſituations, in places incumbered with woods, &c. And experience ſhows that the moiſture of ſea air is by no means inſalubrious, where people are defended from exceſſive cold, and enjoy the benefits of cleanlineſs, good food, due exerciſe, and ſufficient clothing. This is evident from the general vigour, health, and longevity, that appear in the inhabitants of towns well ſituated on the ſea-coaſt; and in

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* If the things I have mentioned ſhould not be allowed to make the difference here contended for; yet the freſhneſs of the ſea air, which is ſo delightful to the organs of ſmell and reſpiration, and ſo powerful a ſtimulus to appetite for food, convince me of its greater purity, though it could no otherwiſe be accounted for, than by ſome, as yet unknown, operation in nature, whereby a great body of water, and eſpecially of ſea-water, in contact with air, either abſorbs its noxious air, or gives out pure air to it.

† Sometimes in ſummer there appear thick fogs at Peterhead, when the air within a little diſtance, on the land, is clear: and theſe fogs have at firſt alarmed ſome perſons, who had never ſeen any fog, but what aroſe from marſhes or freſh water. But theſe ſea fogs are known by every body to be perfectly innocent; and require no farther attention, than that delicate perſons may for the time add a great coat, or cloak, to their clothing.

ſailors who make ſhort voyages, and therefore are not ſubjected to violent change of climate, to ſalt proviſions, or want of clean clothes. Nay it is evident that ſea air has very ſtrong *antiſeptic* * powers: ſince no other cauſe can be aſſigned for the excellent health of fiſhing people, even when they live among maſſes of animal ſubſtances in the higheſt degree of putrefaction. Sea air muſt therefore be allowed to be more ſalutary than land air, in many caſes. Still however it is not univerſally more ſalutary: for there are different diſorders that require pure air, with qualities, in other reſpects different, and even oppoſite. Thus the conſumptive, the gouty, the rheumatic, find their complaints greatly alleviated by the *pure and warm* air of Gibraltar, Madeira, Hyeres, while, on the other hand, thoſe afflicted with the diſorders for which Peterhead is recommended, find great relief from a *pure and cool air*.

But that the air of Peterhead is pleaſant and ſalutary to moſt kinds of valetudinarians, appears from experience, a much better proof than any reaſoning. The perſuaſion of its ſalubrity prevails everywhere through the country; and the ſick who come to Peterhead place great dependence upon it: which could not be the caſe, unleſs conſtant experience kept up the impreſſion. I have heard ſeveral perſons, who came hither for health, declare, that they were no ſooner arrived in the neighbourhood, than they felt the enlivening influence of the air pervade their whole frame. Of many inſtances that might be given of this, I ſhall mention only a very few. A clergyman of great worth and good ſenſe, whoſe conſtitution was almoſt deſtroyed by a long continued violent pain in his head, brought on by a rheumatic ſever, declared to me, that he found himſelf refreſhed by the air of the place, even before he had reached the town: and that, before he could enjoy the benefit of the bath or water, his ſtrength and ſpirits were much reſtored. A much more certain, as being a much more laſting and conſtant inſtance of the ſame, we have in the learned and benevolent Dr. B*** my moſt reſpected friend. Naturally healthy, but not robuſt, from much literary application he became valetudinary; and uſually found it proper to ſpend ſome part of the ſummer at Peterhead. For a long time he perſiſted in uſing the bath and water; becauſe though neither of them agreed with him in the meantime, he found himſelf better for them afterwards. At laſt he gave them both up, and now depending on the air of the place alone, he finds more benefit merely by living in Peterhead, than he ever did while he uſed the bath and water. Hence it is no wonder if we enjoy the credit and gratification of his company during a conſiderable part of every ſummer. And that moſt excellent Youth, author of the beautiful poem at the end of this treatiſe, uſed, chiefly for the ſake of its pure air, to prefer Peterhead to every other part of the iſland, with many parts of which he was well acquainted. Here he choſe to live as much as he could: here he acquired ſome of his many extraordinary accompliſhments; here he compoſed ſome of his poems, and other literary works: and here have I often enjoyed, from his company and converſation, a degree of pleaſure that is ſeldom to be looked for in this world. And he had reaſon to be pleaſed with the air of this place: for by it he two ſeveral times recovered from an aſſault of that cruel diſorder, [conſumption,] from whoſe fatality at laſt, neither this air, nor the advice of the beſt phyſicians, nor his own piety, patience, fortitude, and other virtues, could deliver him. To the irreparable loſs of his friends, and deeply regretted by all who knew his character, he died the nineteenth of November 1790, a few days after he had completed his twenty-ſecond year.

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* This, in general, means, *preventing putrefaction*; but here it is uſed to ſignify, *preventing the ill effects of the effluvia of putrid ſubſtances* on the human frame.

Many other notable inſtances could be brought to prove the pleaſantneſs and ſalubrity of the Peterhead air: but I ſhall only mention one, ſtronger indeed than all the reſt; I mean, the general healthineſs and longevity of the inhabitants. *Endemic* * diſeaſes this place has none: and except ſmall-pox, meaſles, hooping-cough, and influenza, which go everywhere, no *epidemic* † diſeaſes reach this place; or if they come to it, they ſoon become mild, and then diſappear. This was the caſe with a putrid ſore throat, that lately raged through moſt parts of Buchan, with great mortality; and after reaching Peterhead, cut off more perſons than I ever knew to die here in the ſame length of time, except from the ſmall-pox: yet even this dreadful diſeaſe ſoon vaniſhed. Fevers are rare, ſolitary, and ſimple: conſumptions are ſeldom heard of; apoplexies and palſies ſtill ſeldomer: and even rheumatiſm, which, from the moiſture of the air, might be expected to be frequent, is yet by no means ſo. In ſhort, if the proportional number of ſick were compared to that of moſt other towns, I am perſuaded an advantage in favour of Peterhead would be very apparent.

After theſe advantages, in ſome ſenſe appropriated to Peterhead, I may juſt mention ſome of thoſe which are common to it with other watering places.

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* Diſeaſes peculiar to the place: or to which the place is peculiarly liable.

† Diſeaſes which attack many perſons at once.

Few things contribute more immediately and powerfully to the cure of bodily diſorders, than a mind free from anxiety and intenſe thinking. The good effects of this takes place in diſeaſes of every kind; but in thoſe caſes where the mind ſeems to be the ſeat of the evil, or at leaſt to be much affected by a diſordered bodily frame, this muſt be true in an eſpecial manner. Accordingly it is one of the things which phyſicians ſtudy with the greateſt attention, to remove their patients from every object, every circumſtance, that cauſes anxiety, care, ſorrow, or any other uneaſy ſenſation; and on the other hand, to get them into ſuch ſituations as will diſpel diſagreeable thoughts, and promote tranquillity, hope, and joy. When theſe things can be done, many kinds of diſorders vaniſh without any medicine, and in many others, medicines that had before been uſed in vain quickly take effect. But there are few ſituations more favourable for relaxing and chearing the mind, than Peterhead; where a great deal of entertainment may be had, without any further trouble, than of going a few ſteps out of doors to receive it: and where, at the ſame time, degrees of amuſement and exerciſe may generally be had, ſuited to the various capacities of different perſons for receiving them. The mere change of ſcene muſt have very conſiderable good effects. All the cares and perplexities of buſineſs, of ſtudy, of a family, are either left behind, or ſoon diſappear, by the operation of that kind power of nature which makes us be leſs affected by diſtant than by preſent care. The perpetual ſameneſs of the objects around us, which perhaps have grown tedious by habit, and in a diſeaſed ſtate have been aſſociated in the mind with painful ſenſations, is changed for a ſet of things at leaſt new, and probably pleaſant. Thus the mind, by being unbent,

bent, recovers its tone; while the imperfection of the things around us in this, as in every other ſublunary ſituation, makes us ſee advantages in being at home which we had before overlooked. Again, *company*, when ſuited to one's mind, is highly uſeful, as contributing to diſſipate melancholy reflections, and to engage the mind in new and pleaſant trains of thought. To ſome, a mere crowd is company; to others, there muſt be a choice; and to ſome, there muſt be an exquiſite ſelection. But it muſt be a great advantage where there is ſuch a general collection of people, that almoſt all may chuſe thoſe who are agreeable to them: and where yet there are no compulſive circumſtances, forcing any to aſſociate but with whom they pleaſe. Such a variety of company is generally to be found among the numbers of all ranks and claſſes of men that annually reſort to Peterhead. Often I have ſeen at our public table a company, in the higheſt degree reſpectable, where ladies and gentlemen of all ranks and titles, ſenators, judges, philoſophers, military officers, clergy, merchants, were aſſembled; where all felt themſelves of importance, through the conſciouſneſs of equal right; where none claimed ſuperiority, while yet the deference due to rank and to merit of every kind was voluntarily paid; where all ſuſpicion of rudeneſs, of rivalſhip, or oppoſition, being removed, by the rules of good breeding habitually eſtabliſhed, the moſt enlightened converſation, the moſt chaſtiſed wit and humour, and the graces of muſick, alternately inſtructed and enlivened the ſociety: and where, of courſe, perſons of a refined taſte could not fail to receive gratification, while thoſe who had leſs experience found themſelves exerciſed and improved in polite behaviour.

Such a company as this cannot be hoped for, every year, at Peterhead: for it implies an aſſemblage of perſons, collected, not merely for health, but alſo for ſociety, and genteel amuſement: and collections of ſuch perſons will often be regulated by faſhion; moving ſometimes to one place of reſort, ſometimes to another, as happens to be the humour for the time. But as the chief reaſon of coming to Peterhead is founded, not on fancy, as is the caſe of many other places, but on real and permanent qualities; there is no chance that it can ever be deſerted. Weakneſs and diſeaſe are but too certainly the lot of man, at all times: and whereever men can hope for relief, thither, without regard to faſhion, they will reſort. The natural benefits of this place are unchangeable: and while the ſober, obliging, and virtuous character of the inhabitants remains, (and may it ever remain!) ſtrangers will, among them, meet with an agreeable reception. What further is neceſſary for the enjoyment of ſociety, they have it in their power to bring along with them.

I make no apology for ſubjoining the following Ode; which one acquainted with the place would be apt to gueſs had been compoſed, as it really was, upon the ſpot. It was written, in the ſeventeenth year of his age, by my pious, learned, and amiable friend, Mr. James Hay Beattie, afterwards Profeſſor of Moral Philoſophy in Mariſchal College, Aberdeen. He alſo tranſlated it into Engliſh verſe, at the deſire of Dr. Beattie, who, it is hoped, may be prevailed on to favour the public with more of his Son's compoſitions.

AD PETRIPROMONTORIUM INVITATIO.

QUICUNQUE nôſtis turbida gaudia
Tuto quieti pectoris otio,
Silentio qui ruris urbem
Poſthabuiſſe tumultuantem ;

Queis ſana ſano in corpore mens placet ;
Excelſa quorum corda vel evehit
Sublime, vel mulcet venuſtum ;
Huc celeres properate greſſus.

Hic fundit urnâ divite nam Salus
Fontes, amoeni et frigora balnei,
Arvoſque laetâ veſtit herbâ,
Et gelidis agitavit auris.

—At nulla venti ſibila perſonant
Arbuſta nobis, neve per arborum
Umbroſa late regna, longum et
Dat querulum liquida unda murmur.

Fatemur : at non talia poſcimus ;
Patente campo laeta Salubritas
Gaudet, nec humenti ſub umbrâ
Peſtiferam ciet alma noctem.

Sed non fluenti florea ripa, non
Repens ſuſurrus per cava littora
Deſunt, freti vel glauca, longe
Purpureis decorata velis ;

Non luna curru argentea lucido
Per cana collis viſa cacumina;
Non flamma matutina Phoebi
Per tremulum radiata pontum.

Sublime quaeras; hic tumidum mare,
Hic aeſtuantûm verbera fluctuum
Cernes, reſultantûmque in auras
Nubila cana abiiſſe rorum.

Hic riſus, hic convivia laeta ſunt,
Sermo, ſodales, otia, literae;
Quaecunque triſti, vel jocoſo,
Philoſopho, aut placeant poetae.

INVITATION TO PETERHEAD.

YE, who for ſweets that never cloy
Can quit wild Pleaſure's toilſome ſtrife;
For rural peace, and ſilent joy,
Can quit the ſtorms of city life;

Whom languor or whom pain alarms;
Who ſeek a mind from trouble freed;
On Nature's mild or awful charms
Who gaze in rapture; hither ſpeed.

Here Health her bath's enlivening tide,
And fountain's ſparkling nectar, pours;
Fields fluctuate in flowery pride,
While cool gales fan the quiet ſhores.

What, though for us no tainted breeze
Along the vocal thicket rove; *
No rivulet glance through whiſpering trees,
And murmur down a depth of grove!

Th' expanded plain Health joys to tread,
To drink heaven's free, freſh-blowing breath;
Not pent in woods and watery ſhade,
Exhaling peſtilence and death.

Nor daiſied bank of ſilver ſtream,
Nor ſounding beach our fates deny;
Nor floating ſails, that lightly gleam
Where ocean melts in the blue ſky;

Nor moon, in ſolemn ſplendour born
Slow o'er the hoar hill's ſhadowy ſteep;
Nor the gay beam that fires the morn,
Shooting along the tremulous deep.

Or ſeek ye greatneſs? See the tide
Whirl'd in tempeſtuous eddies rave;
See from the brown rock's foamy ſide
Burſt high in air the thundering wave.

Here friendſhip warms, here ſmiles engage,
Here converſe, quiet, learning, leiſure,
Feed mirth, ſooth care, afford the Sage
Inſtruction, and the Poet pleaſure.

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* There are no woods in this neighbourhood, and very few trees.

THE END.

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